ORDER NO. VMD9507M131

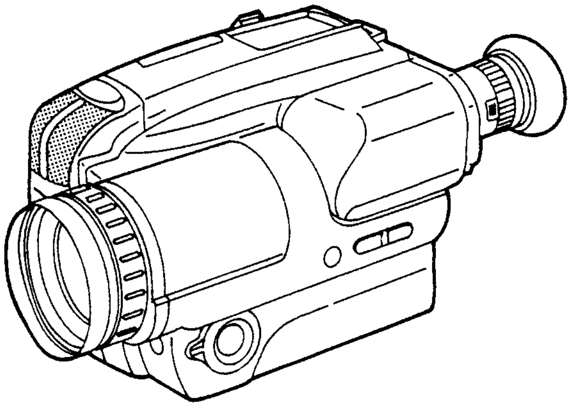
Service Manual

Adjustment Procedures (E.V.R.) **Panasonic** SVHSC 625 VHS PAL

Hi-Fi HQ

S-VHS-C Movie

NV-S88E/B,
S880EN
NV-S99E/A,
S990EN



TEST EQUIPMENT AND TOOLS FOR E. V. R ADJUSTMENT

ITEM	ORDER NO	NOTE	ITEM	ORDER NO	NOTE
1. TEST EQUIPMENT	——		Aligment Tape	VFM8180HUPF	(PAL:VHS-C)
Oscilloscope	——				
Digital Volt Meter	——		2. Extension Cable		
Frequency Meter	——		Connecting Cable	VFK0766A	(5Pin)
Vectorscope	——		Connecting Cable	VFK0734W	(24Pin)
Colour Video Monitor	——		Extension Cable	VFK0668	(24Pin)
Light Meter	——		Common Cable	VFKW0F0001	3pcs(28Pin)
Tripod	——		Attachmet Connector	VFKW0F0145	(26Pin)
Lighting*	——		Attachmet Connector	VFKW0F0138	(26P)
Gray Scale chart	——	Reflection	Attachmet Connector	VFKW0T0001	(8P)
Colour chip chart	——		Attachmet Connector	VFKW0F0147	(26P)
Colour Bar chart	——		Attachmet Connector	VFKW0F0143	(26P)
*Collimator unit	VFK1164TCM01		Attachmet Connector	VFKW0F0136	(8P)
EVR FIXTURE	VFK0644				
ROM31	VFK0701ROM31		3. Movie Light Box	VRD931MLB	
Colour Tempeature Conversion Filter	VFK0374	C12 Filter	4. Chart for Movie Light Box		
	VFK0713		Colour Bar Chart	VFK0875S	
	VFK0375	C2 Filter	Gray Scale chart	VFK0871S	
	VFK0716				

*Lighting Condition = 140-foot candles(1400 lux) on the chart surface 3100°K

*Collimator is infinite Ray Lens unit.

Panasonic

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⚠ **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This Manual contains adjustment procedure for using E.V.R which will allow service personneles to understand adjustment for using E.V.R of NV-S88E/B/S880EN·NV-S99E/A/S990EN Follwing Item descrived on separete volume.

Model. No.	Order. No.	Contents
NV-S88E/B, NV-S880EN	VMD9506M129	SECTION 1 : General Description. SECTION 2 : Adjustment Procedure. ① Disassembly/assembly procedure ② Electric Adjustment for VCR section
NV-S99E/A, NV-S990EN	VMD9507M130	SECTION 3 : Block Diagram & Schematic Diagram SECTION 4 : Exploded View & Parts List

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1. SETUP FOR ADJUSTMENT

The standard setting and preparation for camera adjustment is as shown below.
NOTE: Fig. C1 for Adjustment of Camera Section

1). Prepare the test equipment and tools for Camera unit adjustment which listed on cover page.
2). Remove the side case refering disassembly method. (See Service Manual.)

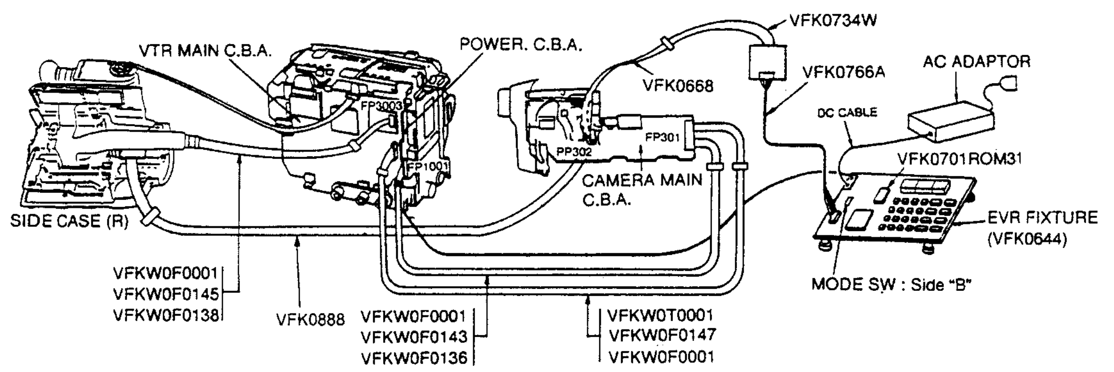
3). Put the ROM IC(VFK0701ROM31) on the E.V.R Fixturte.
4). Connect the E.V.R Fixture and equipments as shown in Fig. C1.
5). Set the mode select switch on E.V.R fixture according to Model. No. as follows.

NV-S77E/B/A : Set the Mode Switch on E.V.R Fixture to "B" side.

6). Turn on the Movie Camera Power SW.

7). Turn on the E.V.R. Fixture Power SW.
The LED display on E.V.R. Fixture will indicate "08.80.00".
(If not, push the Reset button and/or check the cable connections between E.V.R./camera cable connections.
If an error is occurs, see next page at "Error Indication" part.)
8). Set the AE dial to"Manual".
9). Use 3100 degrees kelvin light source for lighting.
10). To trigger the oscilloscope, use Video out.
11). Service work for camera unit must be performed in a dust free location to maintain the lens cleanliness.

Setup for VTR section


VTR MAIN C.B.A.
POWER. C.B.A.
VFK0734W
VFK0766A
AC ADAPTOR
VFK0668
FP3003
FP1001
PP302
FP301
CAMERA MAIN C.B.A.
DC CABLE
VFK0701ROM31
EVR FIXTURE (VFK0644)
MODE SW : Side "B"
SIDE CASE (R)
VFKW0F0001
VFKW0F0145
VFKW0F0138
VFK0888
VFKW0F0001
VFKW0F0143
VFKW0F0136
VFKW0T0001
VFKW0F0147
VFKW0F0001

PIN ARRANGEMENT OF PP302

1	CAMCLOCK
2	SIO
3	VD
4	Y
5	COSOUT
6	ADIN
7	VREFH
8	TIME1
9	FNO
10	WIDE
11	IRISOPEN
12	RESET
13	GNDANA
14	CAM5V
15	TELE
16	AFST
17	TIME2
18	VREFL
19	SUB
20	ABCCONT
21	AFCLOK
22	AFDATA
23	CAMTEST
24	GNDDIGI

Setup for camera section

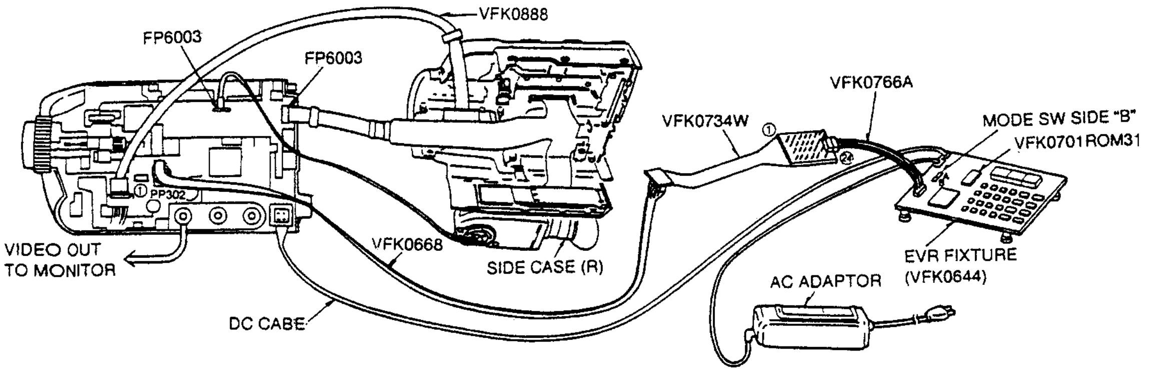

VFK0888
FP6003
FP6003
VFK0766A
VFK0734W
①
㉔
MODE SW SIDE "B"
VFK0701ROM31
① PP302
VIDEO OUT TO MONITOR
VFK0668
SIDE CASE (R)
EVR FIXTURE (VFK0644)
AC ADAPTOR
DC CABE

Fig. C1

2. E. V. R. & NEW ROM DESCRIPTION

2-1. GENERAL DESCRIPTION

The new ROM IC VFK0701ROM31 was developoped. Effective model are NV-S88E/B, NV-S880EN and NV-S99E/A/S990EN.

NV-S88E/B/S880EN : Set the Mode Switch on E. V. R
NV-S99E/A/S990EN : Fixture to "B" side.

2-2. MACRO OPERATION.

The following operation is provied to transfer the data by one touch.
Button to be pushed at same time.

【Mode SW:" B" Side for NV-S88E/B/S880EN, NV-S99A/E/S990EN)

No.	Buttons to be pushed [Push these together]	OPERATIONS
1	[SHIFT 1] + [0]	Fully opens the IRIS.
2	[SHIFT 1] + [1]	Fully closes the IRIS.
3	[SHIFT 1] + [2]	IRIS is turned to Manual Condition.
4	[SHIFT 1] + [3]	IRIS is turned to Original Condition. (AUTO)
5	[SHIFT 1] + [4]	WHITE set.
6	[SHIFT 1] + [5]	Zooms to "WIDE" position.
7	[SHIFT 1] + [6]	Stops the Zoom.
8	[SHIFT 1] + [7]	Zooms to "TELE" position.
9	[SHIFT 1] + [8]	Carrier Balance data writing
10	[SHIFT 1] + [9]	Minimizes AGC Gain.
11	[SHIFT 1] + [A]	Maximizes AGC Gain.
12	[SHIFT 1] + [B]	AGC is returned to Original condition.
13	[SHIFT 1] + [C]	Focuses to "MANUAL" Condition.
14	[SHIFT 1] + [D]	Focuses to "AUTO" Condition.
15	[SHIFT 2] + [0]	Turns FADE ON. (BLACK FADE).
16	[SHIFT 2] + [1]	Turns FADE OFF.
17	[SHIFT 2] + [2]	Turns FADE ON. (WHITE FADE)
18	[SHIFT 2] + [3]	DIS ON & Turns speed to 1/250sec.
19	[SHIFT 2] + [4]	Change the Visual Area for Super-DIS
20	[SHIFT 2] + [5]	Indoor White Balance data writing
21	[SHIFT 2] + [6]	Outdoor White Balance data writing
22	[SHIFT 2] + [7]	Focuses fully "+"Condition.
23	[SHIFT 2] + [8]	Stops the focus.
24	[SHIFT 2] + [9]	Focuses fully "−" Condition.
25	[SHIFT 2] + [A]	AWT data writing.
26	[SHIFT 2] + [B]	Indoor Phase and Gain data writing
27	[SHIFT 2] + [C]	Outdoor Phase and Gain data writing
28	[SHIFT 2] + [D]	Automatically calculates colour detection and writes the data to the EEPROM.
29	[SHIFT 2] + [E]	AWT offset data writing.
30	[SHIFT 2] + [F]	ZOOM/FOCUS Encoder auto adjustment & data writing.
31	[RESET] + [0]	Writes the fixed data and all average data to the EEPROM for NV-S88E, S99E
32	[RESET] + [1]	Writes the fixed data and all average data to the EEPROM for NV-S88B.
33	[RESET] + [2]	Writes the fixed data and all average data to the EEPROM for NV-S880EN/S880ENH, and S99A/S990EN/S990ENH

2-3. ERROR INDICATION.

If an error occurs while E. V. R. fixture is operating display one of the error messages listed in Fig. C3

Error No.	Contens of Error	Simple checking method
1	Set the wrong command number	
2	Set the wrong Address number	
3	VD signal from camera not coming	TP lead wire may be cut
4~6	Detect the error during communication	TP lead wire may be cut
7	Writing error in the EEPROM of camera	Command or address cure wrong
8	Communication error in the EEPROM of camera	Same as above

Fig. C3

3. COMPONENT REPLACEMENT AND ADJUSTMENT REQUIREMENT

When you replace following components, each adjustment are required as shown below.

Component	Adjustment Required	Page
MAIN C.B.A.	Writes all fixed & average data with Macro operation. Then check all adjustment if necessary.	Page 20
IC (EEPROM)		
CCD UNIT	White Balance & Colour Phase/Gain Adjustment(Indoor/Outdoor) Colour reproduction(Macro operation) Focus & Zoom Encorder Adjustment	Page 10~12 Page 14 Page 6
LENS UNIT	Focus & Zoom Encorder Adjustment	Page 6
FOCUS ENCORDER C.B.A.		

Fig. C4

NOTE : When replacing the MAIN C.B.A. or IC314(EEPROM), Fixed & Average data must be written macro operation first, if not, Movie Camera will not work correctly when all adjustments are finished.

4. ASSISTANCE OF ADJUSTMENT REQUIREMENT

When replacing the MAIN C.B.A. or IC314(EEPROM), all adjustment items must be checked.
If necessary adjustment are required after Fixed & Average data are stored with macro operation..
Each adjustment is important. No-adjust or miss-adjustment will cause problems.
As reference, see following table.

Symptom	Description	Adjustment Required	Page
*. POOR FOCUSING	·Focus hunting or focus stops	·HALL AMP ADJ.	Page 6
	·Lens does not focus through full zoom range	·FOCUS & ZOOM ENCORDER ADJUSTMENT	Page 6
*. COLOUR LOSS	·The blooming appears on the picture	·V-SUB ADJUSTMENT	Page 6
*. PICTURE BLIGHTNESS (SHOOTING)	·Picture is too dark or too blight	·PWM ADJUSTMENT	Page 6
		·HALL AMP ADJUSTMENT	Page 6
		·AGC ADJUSTMENT	Page 8
		·ALC ADJUSTMENT	Page 8
		·PEDESTAL LEVEL ADJUSTMENT	Page 8
		·A/D INPUT LEVEL ADJUSTMENT	Page 8
*. PICTURE POOR COLOUR (SHOOTING)	·Picture is Reddish or Bluish ·Red or Blue colour shift. (Seen on the monitor or with vectorscope.) ·If there is a picture but wrong colour or intensity level.	·PEDESTAL LEVEL ADJUSTMENT	Page 8
		·WHITE BALANCE ADJUSTMENT(IN/OUT DOOR)	Page 10~12
		·AUTO CALCULATION FOR COLOUR REPRODUCTION & DETECTION	Page 14
		·AWT OFFSET ADJUSTMENT	Page 14
		·AWT ADJUSTMENT	Page 14
*. REC./PLAYBACK PICTURE	·Weak picture colour Record. ·Beat seen in the picture.	·RECORDING CURRENT (CHROMINANCE) ADJUSTMENT	Page 18
	·S/N ration is low. ·Video signal overload (saturation)	·RECORDING CURRENT (LUMINANCE) ADJUSTMENT	Page 18
	·Head Switching Noise and or Vertical Jitter in the picture.	·PG SHIFTER ADJUSTMENT	Page 18
*. REC./PLAYBACK SOUND	·Poor sound(S/N is low. Weak sound)	·FM RECORDING CURRENT ADJUSTMENT	Page 18

Fig. C5

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-6. LOW CLIP LEVEL	————	Video-Output	①IRIS Close SHIFT 1+1 ②Y OFF Y CMD 0 1 ADR 2 3 DATA F F SET	CMD 1 8 ADR C 6 INC or DEC	A = Less than -40mV ±10mV (To see Fig. C10)	CMD 0 2 ADR A 3 SET
				After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto CMD 0 1 ADR 2 3 DATA 4 0 SET		
5-7. PEDESTAL LEVEL	————	PP302- ⑥ (VFK0734W-⑥)	①AGC maximies SHIFT 1+A ②IRIS Close SHIFT 1+1 ③ Connect the oscilloscope to PP302- ⑥ (VFK0734W- ⑥)	CMD 1 8 ADR B 6 INC or DEC	A = Less than 20mV±20mV (To see Fig. C11)	CMD 1 2 ADR A 8 SET
				After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto SHIFT 1+B : AGC return to Auto		
5-8. AGC LEVEL	Gray-Scale Chart	PP302- ⑳ (VFK0734W-⑳)	① IRIS Manual SHIFT 1+2 ② Shoot the Gray Scale Chart ③CMD 1 8 ADR D E & D F INC or DEC ④Level at PP302- ⑤ is 400mV ±10mV (To see Fig. C12)	CMD 1 8 ADR C E INC or DEC	Signal level at PP302- ⑳ is 350mV±20mVp-p (To see Fig. C13)	CMD 0 2 ADR A 8 SET
				After Adjustment push the following keys SHIFT 1+3 Iris return to Auto		
5-9. A/D INPUT LEVEL	Gray-Scale Chart	PP302- ⑥ (VFK0734W-⑥)	① IRIS Manual SHIFT 1+2 ② Shoot the Gray Scale Chart ③CMD 1 8 ADR D E & D F INC or DEC ④Level at PP302- ⑤ is 400mV ±10mV (To see Fig. C14)	CMD 1 8 ADR B 8 INC or DEC	Signal level at PP302- ⑥ becomes 1V ±40mVp-p. (To see Fig. C15)	CMD 1 2 ADR A 9 SET
				After Adjustment push the following keys SHIFT 1+3 Iris return to Auto		
5-10. ALC	Gray-Scale Chart	PP302- ⑥ (VFK0734W-⑥)	① IRIS Auto SHIFT 1+3 ② Connect the oscilloscope to PP302- ⑥.	CMD 1 8 ADR D 4 INC or DEC	Signal level at B401-⑥ is PP302- ⑥ becomes 1V ±40mVp-p. (To see Fig. C16)	CMD 1 2 ADR A 4 SET

Fig. C10 (LOW CLIP LEVEL)

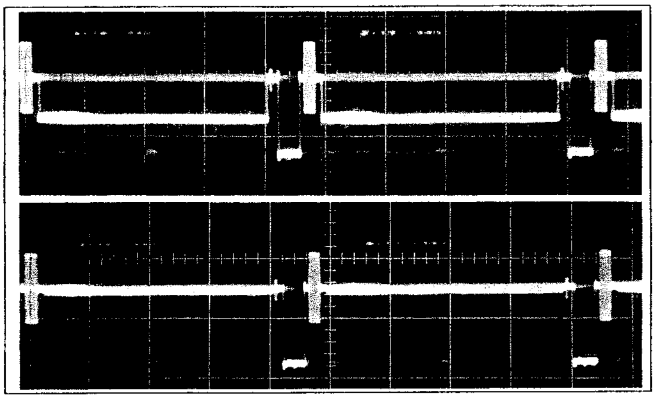


Fig. C11 (PEDESTAL LEVEL)

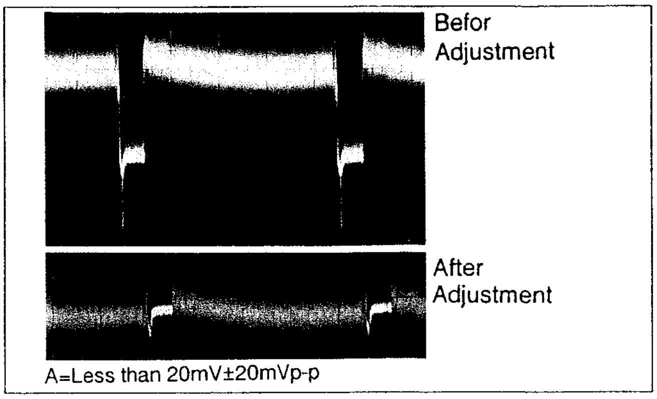


Fig. C12 (AGC ADJUSTMENT PRESET)

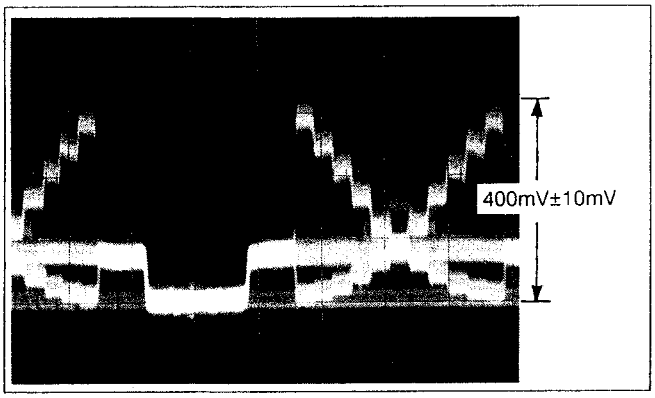


Fig. C13 (AGC LEVEL)

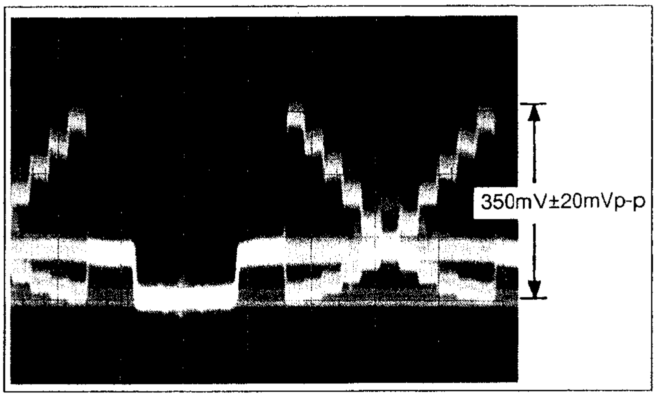


Fig. C14 (A/D INPUT ADJUSTMENT PRESET)

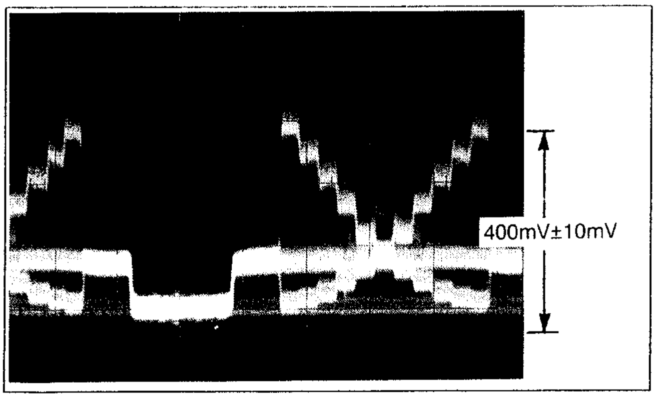


Fig. C15 (A/D INPUT LEVEL)

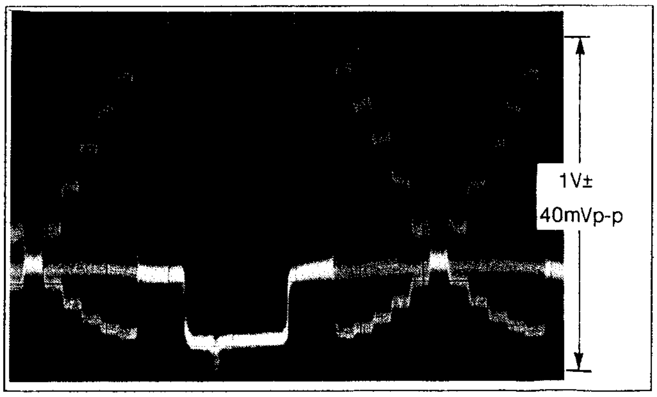
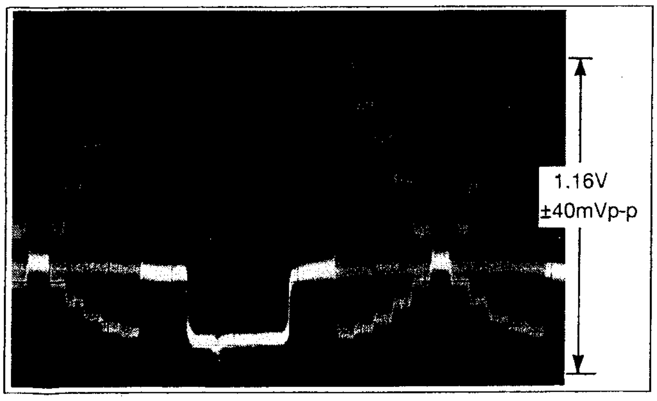


Fig. C16 (ALC LEVEL)



ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-11. CARRIER BALANCE	———	Video Out	①IRIS Close SHIFT 1 + 1 ②AGC Minimize SHIFT 1 + 9 ③Connect the Video out to Vectorscope.	R-Y Carrier CMD 1 8 ADR B A INC or DEC B-Y Carrier CMD 1 8 ADR B B INC or DEC	Centre of Vectorscope (To see Fig. C17)	Carrier Balance Data Writing. SHIFT 1 + 8
				After Adjustment push the following keys SHIFT 1 + 3 : Iris return to Auto SHIFT 1 + B : AGC return to Auto		
5-12. WHITE BALANCE (INDOOR) PLE-ADJUSTMENT	WHITE CHART	Video Out Signal on Vectorscope	① Shoot the White Chart ② Connect the Video-out to Vectorscope. ③ White Set with White Chart SHIFT 1 + 4 (Confirm the vector comes to centre) ④ B-Y WHITE BALANCE DATA WRITE. CMD 1 8 ADR 7 A DATA 8 0 SET	B-Y WHITE BALANCE Adjustment CMD 0 1 ADR 1 3 INC or DEC	Centre of Vectorscope (To see Fig. C18)	WHITE BALANCE DATA Writing. CMD 1 2 ADR 9 5 SET
5-13. WHITE BALANCE (OUTDOOR) PLE-ADJUSTMENT	WHITE CHART with VFK0713 & VFK0716	Video Out Signal on Vectorscope	① Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716 ② White Set with White Chart SHIFT 1 + 4 (Confirm the vector comes to centre) ③ R-Y WHITE BALANCE DATA WRITE. CMD 1 8 ADR 8 A DATA 8 0 SET	R-Y WHITE BALANCE Adjustment CMD 0 1 ADR 1 2 INC or DEC	Centre of Vectorscope (To see Fig. C19)	WHITE BALANCE DATA Writing. CMD 0 2 ADR 9 5 SET
5-14. WHITE BALANCE (INDOOR)	WHITE CHART	Video Out Signal on Vectorscope	① The Adjustment Item 5-12 and 5-13 must be completely aligned before adjustment item 5-14. ② Shoot the White Chart ③ Connect the Video-out to Vectorscope. ④ White Set with White Chart SHIFT 1 + 4 (Confirm the vector comes to centre)	———	Centre of Vectorscope (To see Fig. C20)	Indoor White Balance Data Writing SHIFT 2 + 5

Fig. C17 (CARRIER BALANCE)

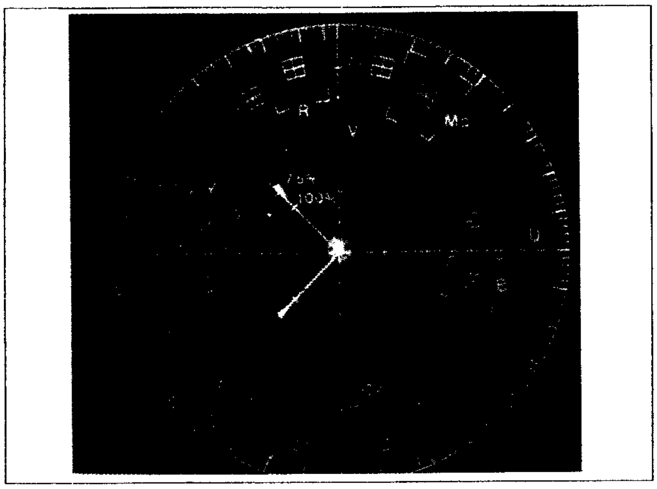

R
V
Mg
75%
100%
U
B

Fig. C18 (WHITE BALANCE INDOOR PREADJUSTMENT)

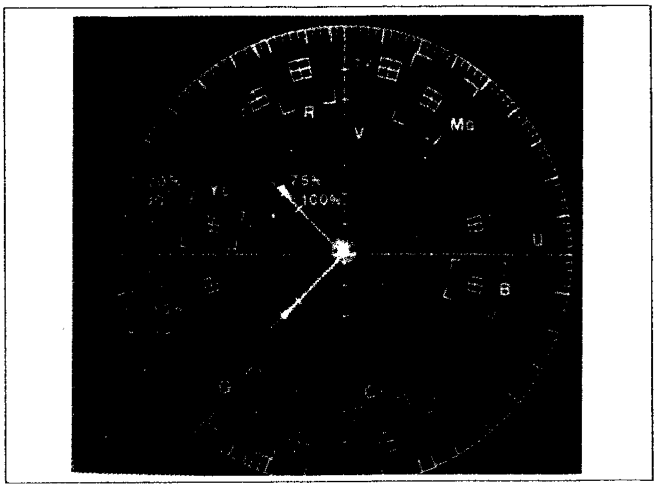

R
V
Mg
75%
100%
U
B

Fig. C19 (WHITE BALANCE OUTDOOR PREADJUSTMENT)

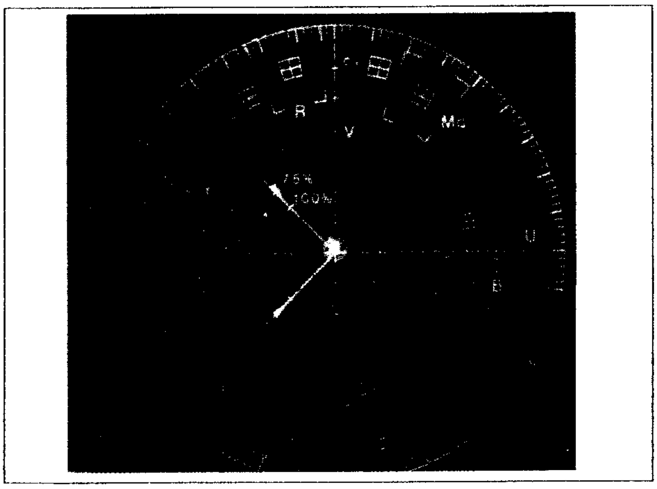
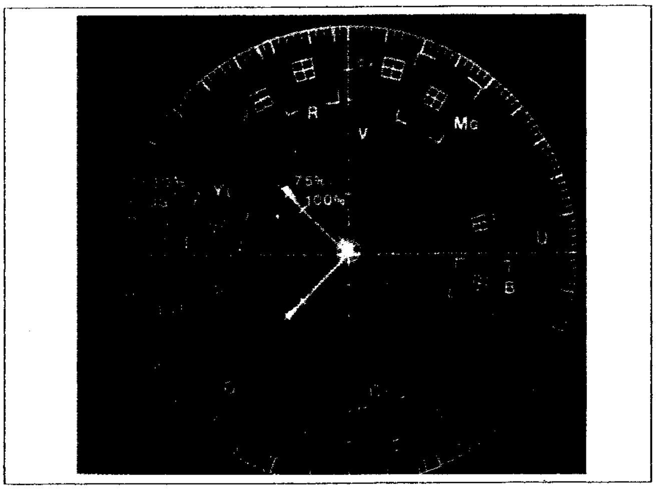

R
V
Mg
75%
100%
U
B

Fig. C20 (WHITE BALANCE INDOOR)


R
V
Mg
75%
100%
U
B

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-15. COLOUR PHASE & GAIN (INDOOR)	Colour Bar-Chart	Video-Out on Vectorscope	Be sure to carry out the Indoor White-Balance Adjustment befor doing this adjustment. ① Shoot the Colour-Bar Chart. ② Connect the Video-out to Vectorscope.	R-Y Gain CMD 1 8 ADR 4 7 INC or DEC R-Y Phase CMD 1 8 ADR 5 7 INC or DEC B-Y Gain CMD 1 8 ADR 4 6 INC or DEC B-Y Phase CMD 1 8 ADR 5 6 INC or DEC	RED-Vector GAIN :180%±10% PHASE:104° ±3° (RED/BURST) YELLOW-Vector GAIN :130%±10% PHASE:168° ±3° (YELLOW/BURST) Reference for RED & YELLOW Vectors are Burst Siganl. (To see Fig. C21)	When Vector Come to Spec Please Push following Keys SHIFT 2+B
5-16. WHITE BALANCE (OUTDOOR)	WHITE CHART with VFK0713 & VFK0716	Video Out Signal on Vectorscope	① The Adjustment Item 5-12 and 5-13 must be completely aligned before adjustment item 5-16. ② Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716 ③ White Set with White Chart SHIFT 1+4 (Confirm the vector comes to centre)	————	Centre of Vectorscope (To see Fig. C22)	Outdoor White Balance Data Writing SHIFT 2+6
5-17. COLOUR PHASE & GAIN (OUTDOOR)	Colour Bar-Chart with VFK0713 & VFK0716	Video-Out on Vectorscope	Be sure to carry out the Outdoor White-Balance Adjustment befor doing this adjustment. ① Shoot the Colour-Bar Chart. ② Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716	R-Y Gain CMD 1 8 ADR 4 7 INC or DEC R-Y Phase CMD 1 8 ADR 5 7 INC or DEC B-Y Gain CMD 1 8 ADR 4 6 INC or DEC B-Y Phase CMD 1 8 ADR 5 6 INC or DEC	RED-Vector GAIN :180%±10% PHASE:104° ±3° (RED/BURST) YELLOW-Vector GAIN :130%±10% PHASE:168° ±3° (YELLOW/BURST) Reference for RED & YELLOW Vectors are Burst Siganl. (To see Fig. C23)	When Vector Come to Spec Please Push following Keys SHIF 2+C

Fig. C21 (COLOUR PHASE & GAIN - INDOOR)

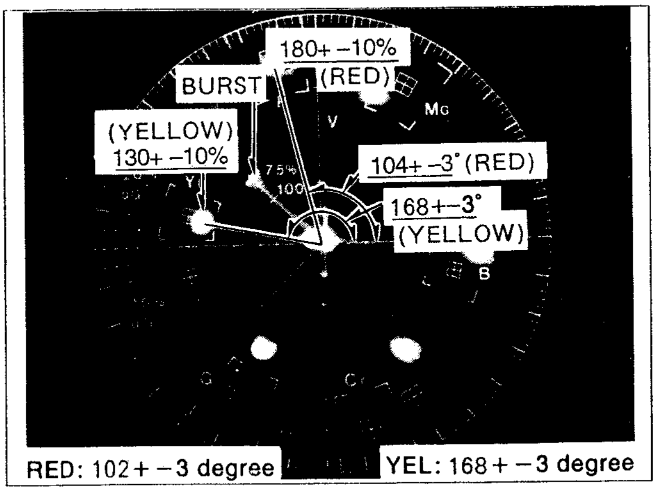

180+ −10%
(RED)
BURST
(YELLOW)
130+ −10%
104+ −3° (RED)
168+−3°
(YELLOW)
V
MG
Y
B
G
CY
75%
100
RED: 102+ −3 degree
YEL: 168+ −3 degree

Fig. C22 (WHITE BALANCE OUTDOOR)

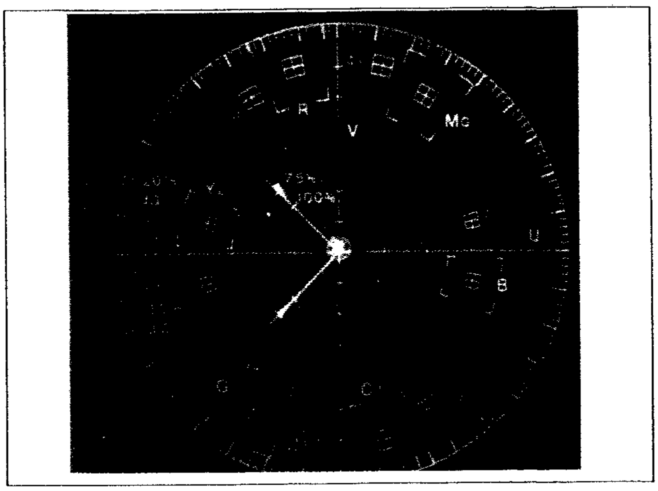
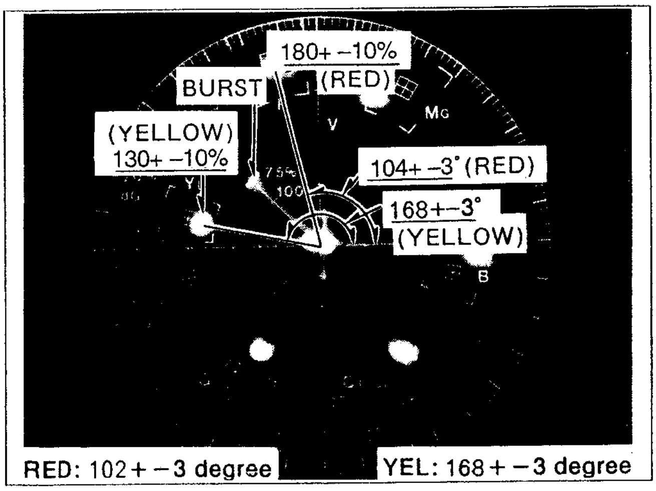

R
V
MG
75%
100%
U
B
G
CY

Fig. C23 (COLOUR PHASE & GAIN - OUTDOOR)


180+ −10%
(RED)
BURST
(YELLOW)
130+ −10%
104+ −3° (RED)
168+−3°
(YELLOW)
V
MG
Y
B
G
CY
75%
100
RED: 102+ −3 degree
YEL: 168+ −3 degree

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-18. DATA WRITING FOR COLOUR REPRODUCTION & WHITE BALANCE	—	—	① Confirm that Mode SW Position of "B" side for EVR.	—	Show in Fig. C24 & C25	Please Push following Keys SHIFT 2+D

Note 1:When the following command carry-out, result of all formulasin Fig. C24/C25 are into EEPROM automatically.
SHIFT 2+D

Note 2:If you want to calculate each formulas , please refere to following step.

How to calculate and enter the data manually.

(For example)
ITEM : R-Y Gain 2800°
FORMULA : 0 + 1.500 × ADR"34"

1). How to read out the data from EEPROM as follows.
Push the following keys in order.

CMD 0 4
ADR 3 4
SET

When the push SET key, DATA LED indicated the data for Address 3 4
For Example, if indicate data is " ". it is data for Address 3 4 (This is hexadecimal number.)

Calculation Formula become as follows.

R-Y Gain 2800° = 0 + 1.500 × ADR"
⇩

2). Convert the hexadecimal data into decimal number using conversion table(See Fig. T3)
R-Y Gain 2800° = 0 + 1.500 ×
= ≒

3). Convert the resul " " to hexadecimal using conversion table.
" " decimal is " " in hexadecimal.
Write the " "into EEPROM address "06".
Please push the following keys in order

CMD 0 2
ADR 0 6
DATA
SET

5-19. AWT SENSOR OFFSET	WHITE CHART	—	There must be no obstructions between AWT sensor and light source.	—	—	AWT offset data Writing. SHIFT 2+E
5-20. AWT SENSOR ADJUSTMENT	WHITE CHART with VFK0713 & VFK0716	—	—	—	—	AWT Auto Caliculation SHIFT 2+A
				After Adjustment, Turn OFF the Power SW. Turn ON the Power SW.		

(Hexadecimal—Decimal Conversion Table)

For some of adjustment items, calculation of hexadecimaldata(indicated on LED of EVR fixture) is needed to obtain the adjustment data. In these cases, convert the hexadecimal value to decimal value before calculation and after calculation is finished reconvert the result to hexadecimal to obtain the adjustment data write the new hexadecimal adjustment data into EEPROM. A hexadecimal-decimal conversion table is shown in Fig. C24.

Hexadecimal lower digit **Hexadecimal upper digic**	0	1	2	3	4	5	6	7	8	9	② A	b	C	d	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
① 2	32	33	34	35	36	37	38	39	40	41	㊷	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
b	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
d	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

For example: If indication of EVR is "6D" (as upper digit is "6" and lower digit is "D"), a decimal value of "109" is obtained from the intersection of ① and ② in the above table.

Fig. C24

Calculation for Auto White Balance

NBR	ITEM	EEPROM ADDRESS	CMD	FORMULA	RESULT OF CALCULATION
1	B-High limit 2800	11	READ 14 WRITE 12	ADR"2A(H)" +0.262 × (ADR"29(H)"-ADR"2A(H)")	
2	B-High limit 2800-3100	13	READ 14 WRITE 12	ADR"2A(H)" +0.382 × (ADR"29(H)"-ADR"2A(H)")	
3	B-High limit 3100-3600	15	READ 14 WRITE 12	ADR"2A(H)" +0.515 × (ADR"29(H)"-ADR"2A(H)")	
4	B-High limit 3600-4500	17	READ 14 WRITE 12	ADR"2A(H)" +0.515 × (ADR"29(H)"-ADR"2A(H)")	
5	B-High limit 4500-5100	19	READ 14 WRITE 12	ADR"2A(H)" + 0.762 × (ADR"29(H)"-ADR"2A(H)")	
6	B-High limit 5100-6000	1B	READ 14 WRITE 12	ADR"2A(H)" + 0.762 × (ADR"29(H)"-ADR"2A(H)")	
7	B-High limit 6000	1D	READ 14 WRITE 12	ADR"2A(H)" + 2.323 × (ADR"29(H)"-ADR"2A(H)")	
8	B-Low limit 2800	10	READ 14 WRITE 12	ADR"2A(H)" -2.000 × (ADR"29(H)"-ADR"2A(H)")	
9	B-Low limit 2800-3100	12	READ 14 WRITE 12	ADR"2A(H)" -0.714 × (ADR"29(H)"-ADR"2A(H)")	
10	B-Low limit 3100-3600	14	READ 14 WRITE 12	ADR"2A(H)" -0.250 × (ADR"29(H)"-ADR"2A(H)")	
11	B-Low limit 3600-4500	16	READ 14 WRITE 12	ADR"2A(H)" -0.250 × (ADR"29(H)"-ADR"2A(H)")	
12	B-Low limit 4500-5100	18	READ 14 WRITE 12	ADR"2A(H)" + 0.192 × (ADR"29(H)"-ADR"2A(H)")	
13	B-Low limit 5100-6000	1A	READ 14 WRITE 12	ADR"2A(H)" + 0.762 × (ADR"29(H)"-ADR"2A(H)")	
14	B-Low limit 6000	1C	READ 14 WRITE 12	ADR"2A(H)" + 2.323 × (ADR"29(H)"-ADR"2A(H)")	
15	R-High limit 2800	11	READ 04 WRITE 02	ADR"2A(L)" -7.000 × (ADR"29(L)"-ADR"2A(L)")	
16	R-High limit 2800-3100	13	READ 04 WRITE 02	ADR"2A(L)" -0.259 × (ADR"29(L)"-ADR"2A(L)")	
17	R-High limit 3100-3600	15	READ 04 WRITE 02	ADR"2A(L)" + 0.074 × (ADR"29(L)"-ADR"2A(L)")	
18	R-High limit 3600-4500	17	READ 04 WRITE 02	ADR"2A(L)" + 0.074 × (ADR"29(L)"-ADR"2A(L)")	
19	R-High limit 4500-5100	19	READ 04 WRITE 02	ADR"2A(L)" + 0.744 × (ADR"29(L)"-ADR"2A(L)")	
20	R-High limit 5100-6000	1B	READ 04 WRITE 02	ADR"2A(L)" + 0.744 × (ADR"29(L)"-ADR"2A(L)")	
21	R-High limit 6000	1D	READ 04 WRITE 02	ADR"2A(L)" + 0.744 × (ADR"29(L)"-ADR"2A(L)")	
22	R-Low limit 2800	10	READ 04 WRITE 02	ADR"2A(L)" -7.000 × (ADR"29(L)"-ADR"2A(L)")	
23	R-Low limit 2800-3100	12	READ 04 WRITE 02	ADR"2A(L)" + 0.018 × (ADR"29(L)"-ADR"2A(L)")	
24	R-Low limit 3100-3600	14	READ 04 WRITE 02	ADR"2A(L)" + 0.481 × (ADR"29(L)"-ADR"2A(L)")	
25	R-Low limit 3600-4500	16	READ 04 WRITE 02	ADR"2A(L)" + 0.481 × (ADR"29(L)"-ADR"2A(L)")	
26	R-Low limit 4500-5100	18	READ 04 WRITE 02	ADR"2A(L)" + 1.088 × (ADR"29(L)"-ADR"2A(L)")	
27	R-Low limit 5100-6000	1A	READ 04 WRITE 02	ADR"2A(L)" + 1.513 × (ADR"29(L)"-ADR"2A(L)")	
28	R-Low limit 6000	1C	READ 04 WRITE 02	ADR"2A(L)" + 1.513 × (ADR"29(L)"-ADR"2A(L)")	

Fig. C25-1

Calculation for Colour Reproduction

NBR	ITEM	EEPROM ADDRESS	CMD	FORMULA	RESULT OF CALCULATION
1	R-Y Gain Control 2800	35	READ 04 WRITE 02	1.500 × ADR"34(L)"	
2	R-Y Gain Control 3600	33	READ 04 WRITE 02	1.250 × ADR"34(L)"	
3	R-Y Gain Control 4500	32	READ 04 WRITE 02	1.000 × ADR"34(L)"	
4	R-Y Gain Control 6000	30	READ 04 WRITE 02	ADR"31(L)"	
5	R-Y Gain Control Halogen Low limit	3D	READ 04 WRITE 02	1.250 × ADR"34(L)"	
6	R-Y Matrix 2800	25	READ 04 WRITE 02	ADR"24(L)" + 1.000 × (ADR"21(L)" - ADR"24(L)")	
7	R-Y Matrix 3600	23	READ 04 WRITE 02	ADR"24(L)" + 1.000 × (ADR"21(L)" - ADR"24(L)")	
8	R-Y Matrix 4500	22	READ 04 WRITE 02	ADR"24(L)" + 1.000 × (ADR"21(L)" - ADR"24(L)")	
9	R-Y Matrix 6000	20	READ 04 WRITE 02	ADR"24(L)" + 1.000 × (ADR"21(L)" - ADR"24(L)")	
10	R-Y Matrix Halogen Low limit	3F	READ 04 WRITE 02	ADR"24(L)"	
11	B-Y Gain Control 2800	35	READ 14 WRITE 12	0.790 × ADR"34(H)"	
12	B-Y Gain Control 3600	33	READ 14 WRITE 12	0.790 × ADR"34(H)"	
13	B-Y Gain Control 4500	32	READ 14 WRITE 12	0.850 × ADR"34(H)"	
14	B-Y Gain Control 6000	30	READ 14 WRITE 12	ADR"31(H)"	
15	B-Y Gain Control Halogen Low limit	3D	READ 14 WRITE 12	0.660 × ADR"34(H)"	
16	B-Y Matrix 2800	25	READ 14 WRITE 12	ADR"24(H)" + 1.000 × (ADR"21(H)" - ADR"24(H)")	
17	B-Y Matrix 3600	23	READ 14 WRITE 12	ADR"24(H)" + 1.000 × (ADR"21(H)" - ADR"24(H)")	
18	B-Y Matrix 4500	22	READ 14 WRITE 12	ADR"24(H)" + 1.000 × (ADR"21(H)" - ADR"24(H)")	
19	B-Y Matrix 6000	20	READ 14 WRITE 12	ADR"24(H)" + 1.000 × (ADR"21(H)" - ADR"24(H)")	
20	B-Y Matrix Halogen Low limit	3F	READ 14 WRITE 12	ADR"24(H)"	

Calculation for Auto White Balance

NBR	ITEM	EEPROM ADDRESS	CMD	FORMULA	RESULT OF CALCULATION
1	R-Y White Balance Gain 2800	3B	READ 04 WRITE 02	ADR"3A(L)" - 0.047 × (ADR"37(L)" - ADR"3A(L)")	
2	R-Y White Balance Gain 3600	39	READ 04 WRITE 02	ADR"3A(L)" + 0.093 × (ADR"37(L)" - ADR"3A(L)")	
3	R-Y White Balance Gain 4500	38	READ 04 WRITE 02	ADR"3A(L)" + 0.411 × (ADR"37(L)" - ADR"3A(L)")	
4	R-Y White Balance Gain 4900	3C	READ 04 WRITE 02	ADR"3A(L)" + 1.000 × (ADR"37(L)" - ADR"3A(L)")	
5	R-Y White Balance Gain 6000	36	READ 04 WRITE 02	ADR"3A(L)" + 1.340 × (ADR"37(L)" - ADR"3A(L)")	
6	R-Y White Balance Gain Halogen Low limit	06	READ 24 WRITE 22	ADR"3A(L)" - 0.111 × (ADR"37(L)" - ADR"3A(L)")	
7	B-Y White Balance Gain 2800	3B	READ 14 WRITE 12	ADR"3A(H)" - 0.068 × (ADR"37(H)" - ADR"3A(H)")	
8	B-Y White Balance Gain 3600	39	READ 14 WRITE 12	ADR"3A(H)" - 0.025 × (ADR"37(H)" - ADR"3A(H)")	
9	B-Y White Balance Gain 4500	38	READ 14 WRITE 12	ADR"3A(H)" + 0.076 × (ADR"37(H)" - ADR"3A(H)")	
10	B-Y White Balance Gain 4900	3C	READ 14 WRITE 12	ADR"3A(H)" + 1.000 × (ADR"37(H)" - ADR"3A(H)")	
11	B-Y White Balance Gain 6000	36	READ 14 WRITE 12	ADR"3A(H)" + 1.300 × (ADR"37(H)" - ADR"3A(H)")	
12	B-Y White Balance Gain Halogen Low limit	06	READ 34 WRITE 32	ADR"3A(H)" - 0.320 × (ADR"37(H)" - ADR"3A(H)")	
13	R/G White Balance Data 2800	03	READ 24 WRITE 22	ADR"2A(L)" - 0.217 × (ADR"29(L)" - ADR"2A(L)")	
14	R/G White Balance Data 3600	02	READ 24 WRITE 22	ADR"2A(L)" - 0.173 × (ADR"29(L)" - ADR"2A(L)")	
15	R/G White Balance Data 4500	01	READ 24 WRITE 22	ADR"2A(L)" + 0.522 × (ADR"29(L)" - ADR"2A(L)")	
16	R/G White Balance Data 4900	05	READ 24 WRITE 22	ADR"2A(L)" + 1.000 × (ADR"29(L)" - ADR"2A(L)")	
17	R/G White Balance Data 6000	00	READ 24 WRITE 22	ADR"2A(L)" + 1.136 × (ADR"29(L)" - ADR"2A(L)")	
18	R/G White Balance Data Halogen Low limit	04	READ 24 WRITE 22	ADR"2A(L)" - 0.217 × (ADR"29(L)" - ADR"2A(L)")	
19	B/G White Balance Data 2800	03	READ 34 WRITE 32	ADR"2A(H)" - 0.127 × (ADR"29(H)" - ADR"2A(H)")	
20	B/G White Balance Data 3600	02	READ 34 WRITE 32	ADR"2A(H)" + 0.015 × (ADR"29(H)" - ADR"2A(H)")	
21	B/G White Balance Data 4500	01	READ 34 WRITE 32	ADR"2A(H)" + 0.089 × (ADR"29(H)" - ADR"2A(H)")	
22	B/G White Balance Data 4900	05	READ 34 WRITE 32	ADR"2A(H)" + 1.000 × (ADR"29(H)" - ADR"2A(H)")	
23	B/G White Balance Data 6000	00	READ 34 WRITE 32	ADR"2A(H)" + 2.140 × (ADR"29(H)" - ADR"2A(H)")	
24	B/G White Balance Data Halogen Low limit	04	READ 34 WRITE 32	ADR"2A(H)" - 0.127 × (ADR"29(H)" - ADR"2A(H)")	

Fig. C25-2

6. ADJUSTMENT FOR VTR-SECTION.

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
6-1. CHORMINANCE RECORDING CURRENT	——	TL5001 TL5002	① IRIS Close SHIFT 1+1 ②Connect oscilloscope to TL5001(HOT), TL5002 (GND). ③Connect the jumper -wire between TL3005 & GND. Also, push the following keys for elminate the Luminance recording current. CMD 1 8 ADR B D DATA 0 0 SET	CMD 1 8 ADR B C INC or DEC	Adjust the Signal level at TL5001. Spec as shown below. 12mV ±2mVp-p (To see Fig. C26)	CMD 1 2 ADR A B SET
				After adjustment, push the following keys. SHIFT 1+3 Iris return to Auto. Also, remove the jumper-wire.		
6-2. LUMINANCE RECORDING CURRENT	——	TL5001 TL5002	① IRIS Close SHIFT 1+1 ②Connect the oscilloscope between TL5001 & TL5002.	CMD 1 8 ADR B D INC or DEC	Adjust the Signal level at TL5001. Spec as shown below. 110mV±4mVp-p (To see Fig. C27)	CMD 0 2 ADR A B SET
				After adjustment, push the following keys. SHIFT 1+3 Iris return to Auto.		
6-3. PG SHIFTER	Reference Tape	Video-Out B6004-11	①Turn the unit to OSD Line out Mode Push the follwig keys Simultaneouly for at least 2 sec. Key name location ①DATE/TIME "SET" Under the EVF ②RESET Top panel ③DATE/TIME Side panel ②Turn the unit to Service Mode. Push the follwig keys Simultaneouly for at least 2 sec. Key name location ①DATE/TIME "SHIFT" Under the EVF ②RESET Top panel ③DATE/TIME Side panel ③Turn the unit to Service Mode 4. Push the following key 3 times. DATE/TIME on Side panel	Push the following keys until PG point becomes Spec. DATA/TIME SHIFT or SET SHIFT key for data decrease. SET key for data increase. (To see Fig. C28)	Video-Out = 6.5 ±0.5H When PG point become spec, Take note PG Value. (To see Fig. C29)	CMD 1 2 ADR A E DATA * * SET DATA * *

7. ADJUSTMENT FOR AUDIO-SECTION.

7-1. FM AUDIO RECORDING CURRENT	——	TL5003(HOT) TL5004(GND)	①Disconnect the P4001. ②Connect oscilloscope to TL5003(HOT) & TL5004(GND).	CMD 1 8 ADR C 0 INC or DEC	Signal level at TL5003 becomes 180±5mVp-p. (To see Fig. C30)	CMD 1 2 ADR A C SET

Fig. C26 (CHROMA REC CURRENT)

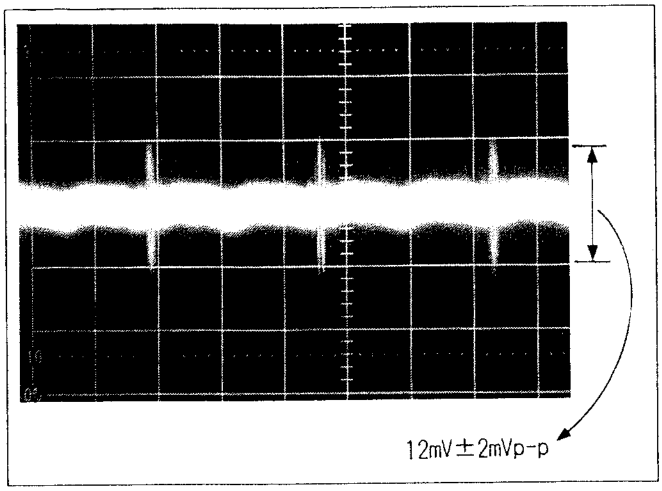


Fig. C27 (LUMINANCE REC CURRENT)

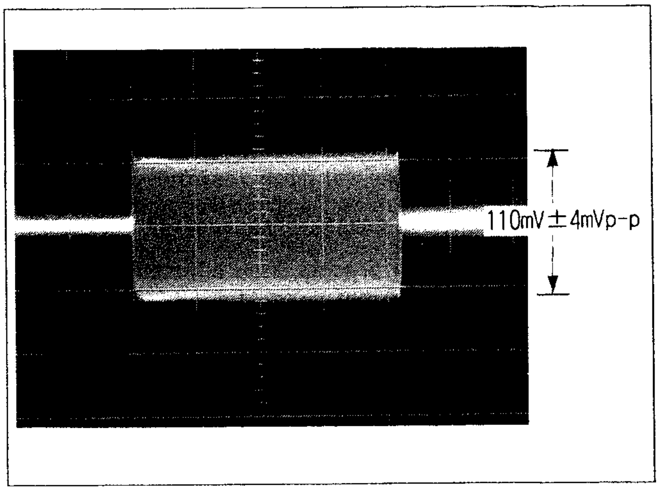
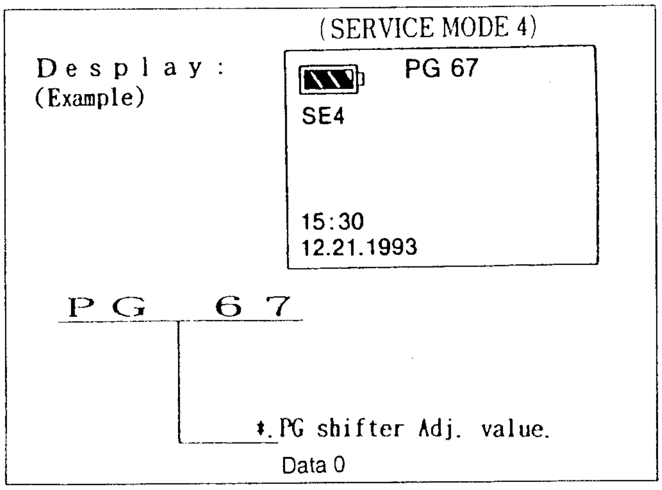


Fig. C28 (PRESET FOR PG SHIFTER)



(SERVICE MODE 4)

Desplay :
(Example)

PG 67
SE4
15:30
12.21.1993

PG 67

*. PG shifter Adj. value.
Data 0

Fig. C29 (PG SHIFTER)

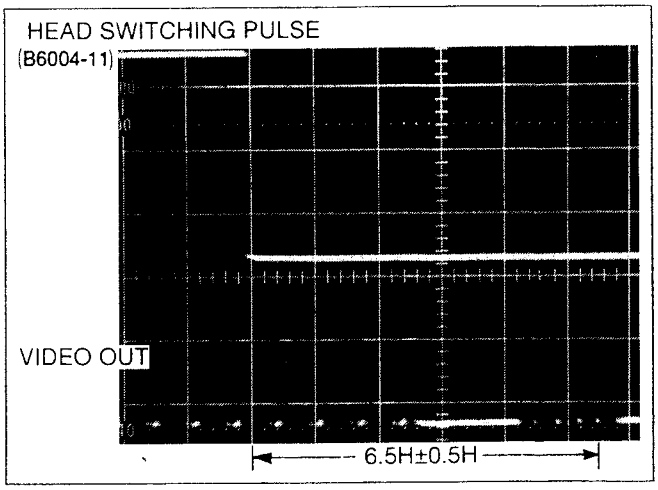
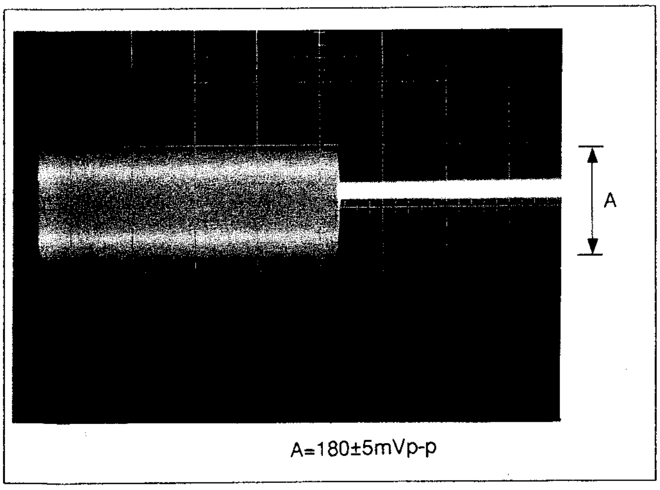


Fig. C30 (FM AUDIO RECORDING CURRENT)



8. ADDITIONAL USES FOR THE E. V. R

8-1. General description.

Camera Process section uses a memory IC called a E^2 P. R. O. M(Electric Eraseable Programable Read Only Memory) that replace the variable resistor in conventional camera process.

In conventional camera process, each adjustment point was adjusted by turning variable resistor.

In the some adjustment voltage is record in the E^2 PROM as 8 bit digital data.

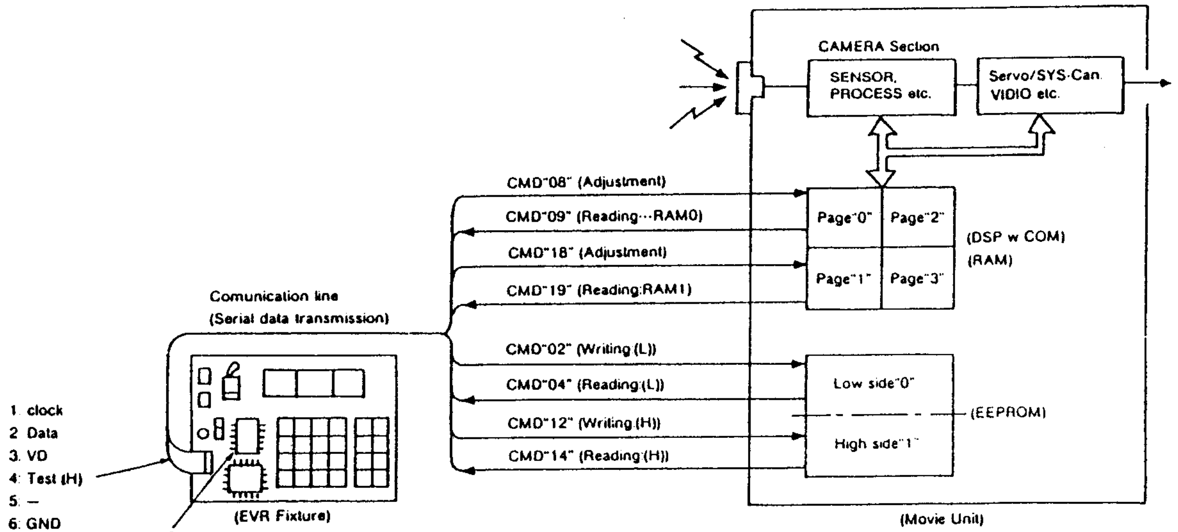
The E^2 PROM supplies the record adjustment voltage to the adjustment point as shown Fig. C31

The data in the E^2 PROM can be easily changed electrically.
The E. V. R has been designed to change the 8-bit digital data of E^2 PROM in system control circuit.

The E. V. R can communicate directly with the RAM of the microprocessor to change each control voltage.

In normal operation the E^2 PROM would send the voltage data to RAM where the digital data is used to change the adjustment values in the circuit.

Using the E. V. R you can change the data stored in E^2 PROM.
And the E. V. R can also send the data to RAM directly to confirm the adjustment.


CAMERA Section
SENSOR, PROCESS etc.
Servo/SYS-Can. VIDIO etc.
CMD"08" (Adjustment)
CMD"09" (Reading···RAM0)
CMD"18" (Adjustment)
CMD"19" (Reading:RAM1)
Page"0"
Page"2"
Page"1"
Page"3"
(DSP w COM)
(RAM)
Comunication line
(Serial data transmission)
CMD"02" (Writing:(L))
CMD"04" (Reading:(L))
CMD"12" (Writing:(H))
CMD"14" (Reading:(H))
Low side"0"
High side"1"
(EEPROM)
1. clock
2. Data
3. VD
4: Test (H)
5. —
6: GND
ROM
(EVR Fixture)
(Movie Unit)

COMMAND DESCRIPTION

Fig. C31

8-2. E^2 P. R. O. M ADDRESS & DATA MAP

The E^2 PROM Address & Data Map are shown in Fig. C32

(Automatic Writig)

1. Confirm that ROM of EVR has been replaced with the new one(Part No. : VFK0701ROM31)
2. Confirm that Mode Select switch position of EVR is "B" side.
3. Push [RESET + 0] or [RESET + 1] at same time.
4. The above commands write, fixed data and average data to EEPROM.

Purpose:
To program replacement EEPROM which are supplied unprogrammed.
When replacing the main C. B. A and IC Fixed & Average data must be written.

Symptom of Mis-entered data:
Picture will not appear or will not work correctly.

Note 1:
Write fixed data and average data only when replacing the EEROM or MAIN C. B. A. or when data was destroyed.

E^2 P.R.O.M DATA

The EEPROM Address of NV-S88E/B/S880EN, NV-S99E/A/S990EN are complety same.
However, some Datas are different according to the model.

<Autoamtic Writing>

1. Confirm the ROM of EVR has been replaced with the new one. (Part No. : VFK0701ROM31)
2. Confirm that Mode select switch position of EVR is " B" side.
3. Depend on the models, push commands (0, 1, 2) right away after pushing the RESET key.
   [RESET] + [0] : NV-S88E, S99E
   [RESET] + [1] : NV-S88B.
   [RESET] + [2] : NV-S880EN/ENH, S990EN
4. The above command write, fixed data and averaged data to EEPROM.

Comparison of Fixed data

Model No.	NV-S88E, S99E	NV-S88B.	NV-S880EN/ENH, NV-S990EN/S99A
Push Buttons	[RESET] + [0]	[RESET] + [1]	[RESET] + [2]
ADDRESS	DATA	DATA	DATA
ED(high)	80	90	80
ED(low)	80	80	DC
8D(high)	31	30	31
8D(low)	31	30	31

Purpose:

To program replacement EEPROM which are supplied unprogrammed.
when replacing the CAMERA Main C.B.A or IC314(EEPROM).
Fixed & Averaged data must be written.

Sysptom of Mis-entered data:

Picture will not appear or will not work collectly.

Write fixed data & Averaged data only when replacing the EEPROM or Camera Main C.B.A or when data was destroyed.

Panasonic
MATSUSHITA ELECTRIC

Printed in Japan

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P.C.B.	FILM CODE
AWT SENSOR	HOKU00-23271
CAMERA MAIN	HOKU00-23272
CCD FLEXIBLE CARD	HOKU00-22123
EVF	HOKU00-28086
POWER	HOKU00-01638
VTR MAIN	HOKU00-03B80
MIC	HOKU00-04517
AV JACK	HOKU00-00V70
EJECT	HOKU00-00W14
S/S	HOKU00-00V80
S-JACK	HOKU00-00V71
POWER SUB	HOKU00-01764
VTR SUB 1	HOKU00-00X72
VTR SUB 2	HOKU00-06B40
CAPSTAN SMALL	HOKU00-06B44

Panasonic
MATSUSHITA ELECTRIC

Printed in Japan

ORDER NO. VMD9506M129

Service Manual

Panasonic S-VHS-C VHS PAL 625

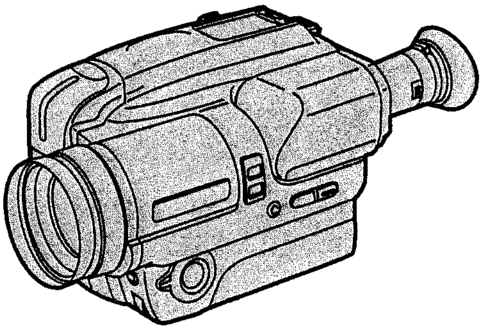
Hi-Fi HQ

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List

S-VHS-C Movie

NV-S88E/B
NV-S880EN

DL-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: Battery Pack; 4.8V AC Adaptor; 6.0V Consumption; 8.3W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
FM AUDIO RECORDING SYSTEM	4 rotary heads, helical scanning system
TAPE FORMAT	S-VHS-C/VHS-C Cassette Tape (Tape width 12.7mm)
TAPE SPEED	23.39mm/s Record/Playback Time: 45min. with NV-SEC45XD FF/REW Time: less than 5min. with NV-SEC45XD
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 1 Lux (Low Light Mode)
	LENS: 14:1 Wide-angle/Variable Speed Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.4 (3.9~54.6mm), Filter Diameter 43mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEWFINDER: 0.5 inch Electronic Viewfinder
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0Vp-p 75Ω unbalanced S-VIDEO OUT; 1.0Vp-p 75Ω unbalanced

ITEM	SPECIFICATION
AUDIO	HEAD: 1 Stationary head (Normal-Mono) 4 rotary heads; 2 channels (Hi-Fi Sound-Stereo)
	OUTPUT: PHONO CONNECTOR; −6dB, 47kΩ loaded/less than 1kΩ Phones (M3); −23.5dBV (32Ω loaded)/120Ω
	INPUT: MIC IN (M3); −70dBV/4.7kΩ or more unbalanced
Operating Temperature	0~40°C
Operating Humidity	10~80 %
WEIGHT	Approx. 890g (without Battery Pack)
DIMENSIONS	117(W)×116(H)×225(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. AV Output Cable 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. Battery for Remote Controller 1 pc. 21 pin Adaptor (NV-S88E/B) 1 pc. S-Video Cable 1 pc. AC Cable 1 pc. Remote Controller 1 pc. Remote Controller Holder

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This Service manual contains techinical information which will allow service personneles toundrstand and service this model.

Section 1 pressents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your electrical adjustment as well disassemble and replacement procedures.

Section 3 contain block diagram which offers you information for checking and undrstanding each circuit. Schematic diagrams which give you much information such as waveforms, vlotage data, and so on.

Section 4 contain exploed views and parts list.

Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

Note :

The following items are separated from this model.
So, please refer to each Service Manual as follows.

SEPARATED ITEMS Contens of Separate volume	Order-Number For Service Manual	REMARKS
Adjustment procedure of Mechanism-Chassis	VMD9412M130	
Adjustment procedure of Camera	VMD9506M131	
AC Adaptor : VSK0317C. (VSK0317: AC adaptor for NV-S88, S880 series)	VMD9501M104.	

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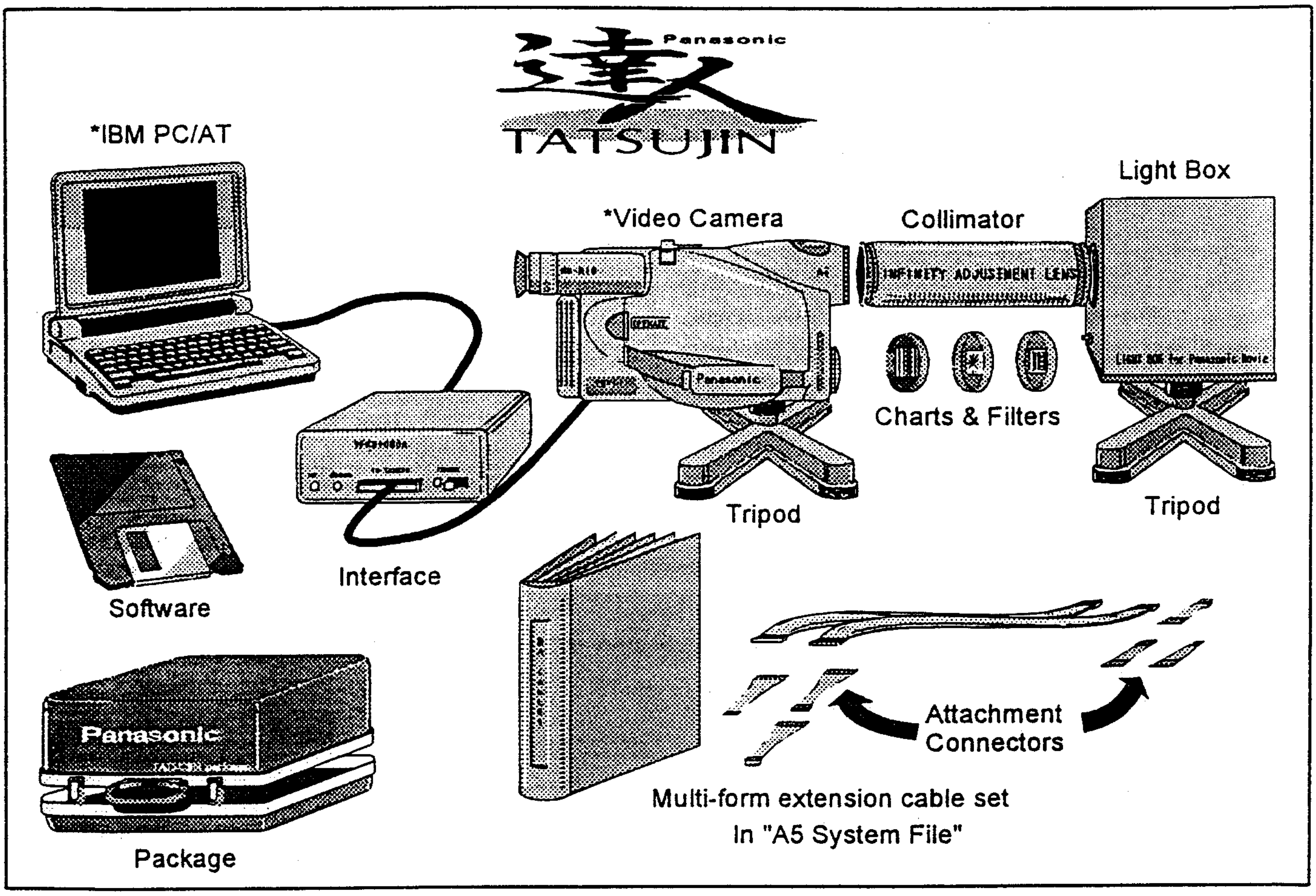
Technical Information

Subject: Introduction of new service device kit "TATSUJIN"(VED95TTJ).


Panasonic
TATSUJIN
*IBM PC/AT
*Video Camera
Collimator
Light Box
Charts & Filters
Tripod
Tripod
Software
Interface
Attachment Connectors
Package
Multi-form extension cable set
In "A5 System File"

A new service device kit for Video Camera, "TATSUJIN" Kit, is now avaiable from Panasonic. "TATSUJIN" is a Japanese word whic means a specialist, expert, or master in English. This naming was made because the kit will make you a"TATSUJIN" of Panasonic Video Camera servicing. The "TATSUJIN" itconsists ofthe following 3 items which are simply organized in a small package. All of which will drastically improve your productivity of Video Camera servicingin terms of Diagnosis, Adjustment, and Confirmation.

1. PC-EVR. (Interface, Software, Connecting Cables)

   It connect a Camera to your IBM PC/AT so that the adjustment and trouble-shooting can be done easily on PC screen. The time used to taken by the camera adjustment will be reduced more than 60%. In addition, Its diagnosis support function helps you to improve the sservice efficiency drastically. The conventional EVR(VFK0644) will be replaced by this new computer-aided system.

Note:*PC and *Camera are not included in the kit. The minimum requirement of the PC is 80286 CPU, 1MB RAM, and MS-DOS 3.2. For further information, please contact Video Equipment Division.

2. Optical Set. (Collimator, Charts & Filters, Light Box, Tripods)

All of the opical devices which are indispensable to service a camera but used to take a hugg space to set up, are now drastically shrunk into a compact "Desk-top space".
Now you can easily aim various charts, COLOR-BAR, GRAY-SCALE, HUNTING, and WHITE, by simply attaching them to the collimator which is inserted in a·compact light box.
So that you do not have to worry about restricting external light and measuring the distance from the chart.

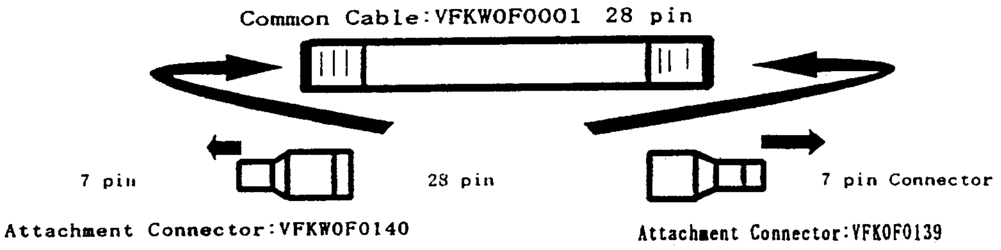
3. Multi-form Extension Cable Set.

Now you can make any kind of extension cable required, by simply changing the attachment connectors.
All of the connectors which cover all extension cables since 1990, are simply organized in a "A5 System file".
When you need a new connectot for a new model it can be purchased at extremely low price.

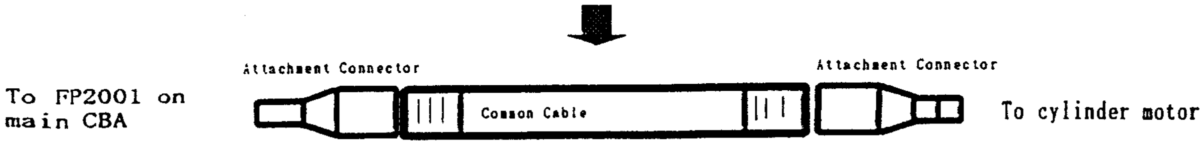
Note: Example for new type extension cables.

How to use the new type extension cables are as follows.
(This model requires new extension cables between FP2001 (Main) and CYLINDER.)

1. Attach the attachment connector (VFKW0F0139 & VFKW0F0140) to Common Cable (VFKW0F0001) as follows. Please check the direction of conductors between attachment connector and Common Cable.


Common Cable:VFKWOF0001 28 pin
7 pin
28 pin
7 pin Connector
Attachment Connector:VFKWOF0140
Attachment Connector:VFKOF0139

2. Connect the attachment connector (VFKW0F0139) to the Cylinder Motor.
3. Connect the attachment connector (VFKW0F0140) to the FP2001 on Main C.B.A.


To FP2001 on main CBA
Attachment Connector
Common Cable
Attachment Connector
To cylinder motor

Service caution.

1-1. Service Extension Cables.

Use the following extension cables when checking or adjusting individual circuit bords.
The new style extension cables are used for this model.
New Style Extension Cables(Mylti form Extension cable)⟹ Ref-No 9~20.

Ref	Part No.	PIN	Part Name	Connection	Q'ty	Remaks
1	VFK0498	4	EXTENSION CABLE	P4001(AUDIO) ~ MIC	1	
2	VFK0638	10	EXTENSION CABLE	P6006(MAIN) ~ SIDEL CASE (L)	1	
3	VFK0670	18	Flat Cable	FP6001(Main) ~ Mech.Chassis	1	
4	VFK0670	18	Flat Cable	FP2002(Main) ~ CAPSTAN	1	
5	VFK0728	9	Flat Cable	FP4001(Main) ~ A/C HEAD	1	or VFK0930
6	VFK0729	6	Flat Cable	FP6002(Main) ~ Mech.Chassis	1	
7	VFK0841	28	EXTENSION CABLE	PJ6001(Main) ~ B1001(POWER)	1	or VFK0980
8	VFK0888	10	Flat Cable	PP3002(MAIN) ~ AV JACK	1	
9	VFKW0F0139	7	Attachment Connector	FP2001(MAIN) ~ CYLINDER	1	
10	VFKW0F0001	28	COMMON Cable		1	
11	VFKW0F0140	7	Attachment Connector		1	
12	VFKW0F0143	16	Attachment Connector	FP301(PROCESS) ~ FP1001(POWER)	1	
13	VFKW0F0001	28	COMMON Cable		1	
14	VFKW0F0136	16	Attachment Connector		1	
15	VFKW0F0145	26	Attachment Connector	FP6003(MAIN) ~ CAMERA OP	1	
16	VFKW0F0001	28	COMMON Cable		1	
17	VFKW0F0138	16	Attachment Connector		1	
18	VFKW0F0147	28	Attachment Connector	FP301(PROCESS) ~ FP3003(MAIN)	1	
19	VFKW0F0001	28	COMMON Cable		1	
20	VFKW0T0001	16	Attachment Connector		1	
21	VFK0888	10	Flat Cable	PP301(PROCESS) ~ DIGITAL OP	1	

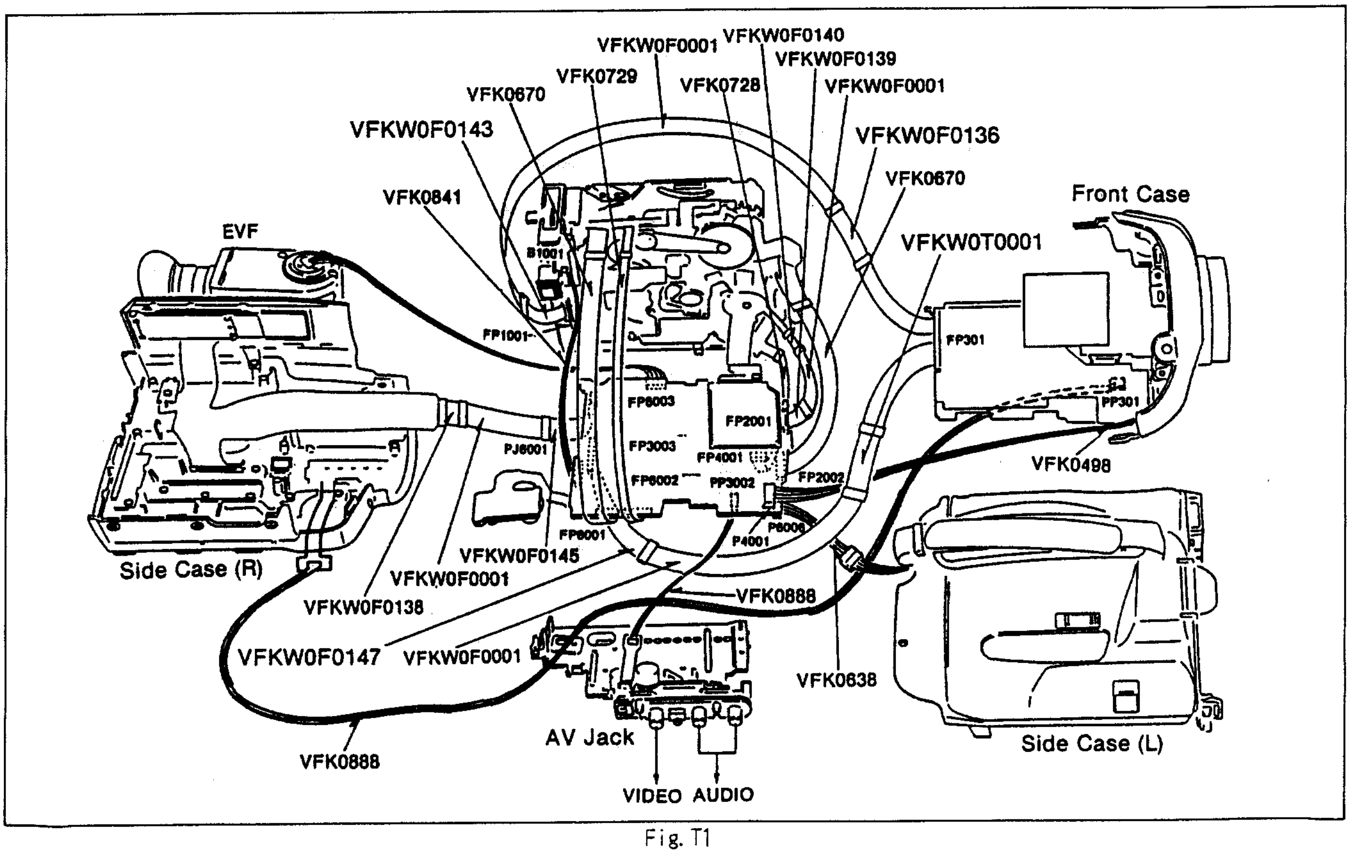

VFKW0F0001
VFKW0F0140
VFKW0F0139
VFK0729
VFK0728
VFKW0F0001
VFK0670
VFKW0F0143
VFKW0F0136
VFK0670
VFK0841
Front Case
EVF
VFKW0T0001
B1001
FP1001
FP301
FP6003
FP2001
PP301
FP3003
FP4001
PJ6001
FP6002
PP3002
FP2002
VFK0498
P6006
FP6001
P4001
VFKW0F0145
Side Case (R)
VFKW0F0001
VFK0888
VFKW0F0138
VFKW0F0147
VFKW0F0001
VFK0638
AV Jack
Side Case (L)
VFK0888
VIDEO
AUDIO

Fig. T1

New-DIS System

This New S-VHS-C movie Camera series employs the New D. I. S system.
1)No Electric Zoom operation(DIS On or OFF, therer is no differernce for picture resolution between the two.)
How to Elimanate the Hand Jitter without Electrical Zoom-up operation.

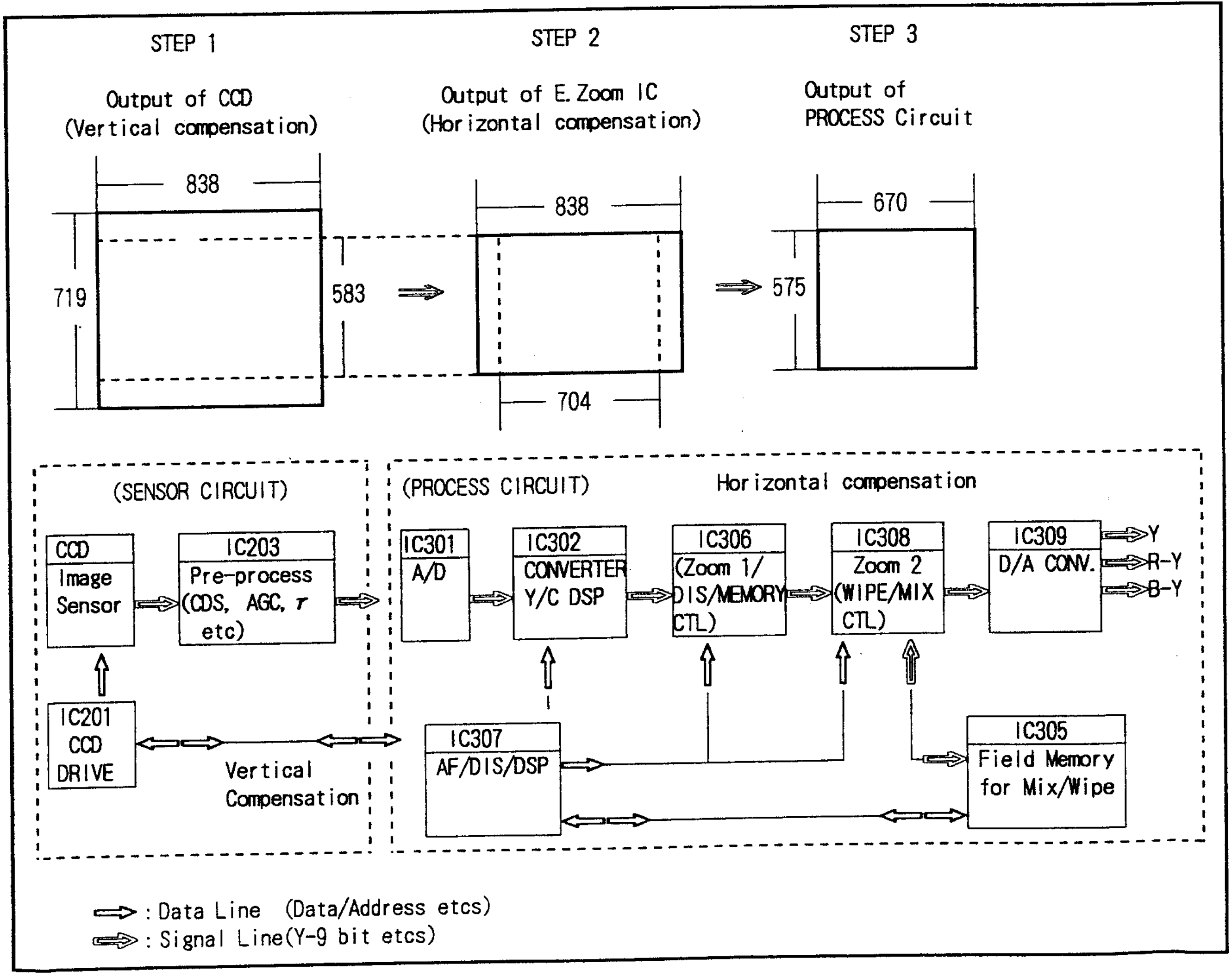
① Previous DIS System
In previous model, when the DIS function activated, the Field Memory IC memorieses full size information of CCD.
Size of read-out area from Filed-Memory IC is 15% smaller than CCD out put.
Offcause this read-out area is shifted vertically/horizontaly according to hand-jutter.
After that read-out area is enraged to full size(1 Filed) information.
So previous model, Field Memory IC and Zoom-Up operation is required for achive DIS function.

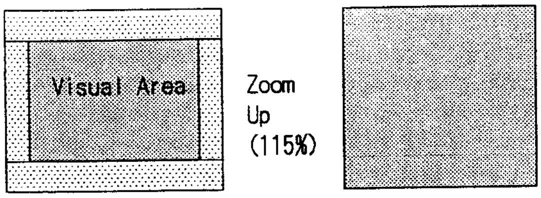
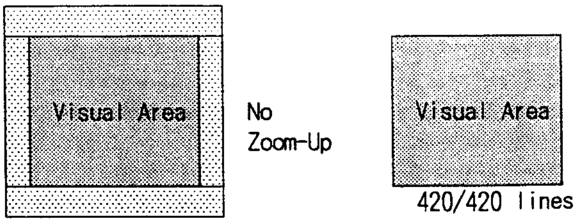
② New DIS System
The New DIS sys tem emplys high-Density CCD image sensor which has bigger effective area more than previous CCD unit. (Normaly, effective area and visual area of CCD image sensor are same size.)

When the DIS function activated, IC306(DIS CTLMEMORY CTL/ZOOM IC) predicts the hand jitter during signal process according to the hand jitter detection.

IC306(DIS-CTL) control the CCD image sensor verticaly throught IC307 data line.

(In fact, this extractive operation is always performed, even DIS function is ON or OFF.)


STEP 1
Output of CCD
(Vertical compensation)
838
719
583
STEP 2
Output of E.Zoom IC
(Horizontal compensation)
838
704
STEP 3
Output of
PROCESS Circuit
670
575
(SENSOR CIRCUIT)
CCD
Image Sensor
IC203
Pre-process
(CDS, AGC, γ etc)
IC201
CCD
DRIVE
Vertical
Compensation
(PROCESS CIRCUIT)
Horizontal compensation
IC301
A/D
IC302
CONVERTER
Y/C DSP
IC306
(Zoom 1/
DIS/MEMORY
CTL)
IC308
Zoom 2
(WIPE/MIX
CTL)
IC309
D/A CONV.
Y
R-Y
B-Y
IC307
AF/DIS/DSP
IC305
Field Memory
for Mix/Wipe
: Data Line (Data/Address etcs)
: Signal Line(Y-9 bit etcs)

	Previous DIS	New DIS
Imaginations	 Visual Area Zoom Up (115%) 320K pixels 320/280 lines	 Visual Area No Zoom-Up Visual Area 420/420 lines 400K pixels
Effective Pix of CCD	320K Pixels	610K Pixels
Zoom-Up Effective Picture Extraction	Yes(115% Zoom Up) Field Memory + Electrical Zoom ⇨ ①Field Memory memories 100% CCD output. ②Extract the 85% from Field memory.	No Electric Zoom for DIS High Density CCD + Electrical Zoom ⇨ ①Vertical Extraction performed by CCD image sensor and CCD Drive Circuit(IC201). ②Horizontal Extraction performe by Electrical Zoom IC.

Memo

Programe AE Function
(Auto Expose)

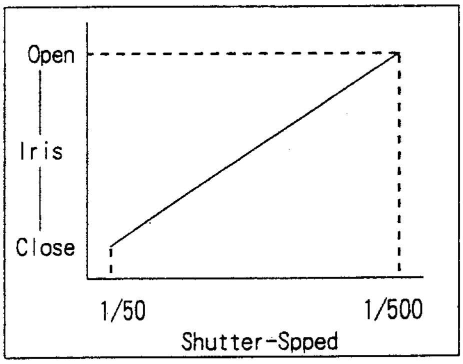
AE (Auto Exposure)

1. General Explanation

This Movie Camra has three programme AE(Auto Exposure). mode Sports, Portrait and Low light.
AE modes, just select the required mode according to scene's.

●Sport Mode.
(Shutter Speed have priority over Iris control)

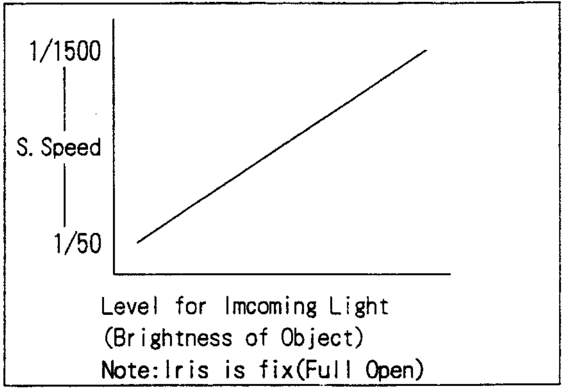
Ideal for getting clear action shots.
When select the Sports Mode, The Shutter speed automatically adjusts between 1/50 and 1/500 of a second depending on the scene's brightness, to capture quick movements without blurring.
(Making the shutter speed as fast as possible)



●Portrait Mode

(Iris control have priority over Shutter Speed Control)

Use this to give portraits a special soft touch. The Iris adjusts to emphasize the subject while giving the background or foreground a soft, out focus effect.
(Opening the Iris as much as possible acccording to lighting conditions.)



●Low-Light Mode
(Increase the AGC gain by applying the extra gain)

When select the Low Light mode, the increase the sensitivity and brightness up the picture.
To achive this, increase the AGC gain by applying the extra gain, according to the btightness.
(So, when the picture brightness is enough, the result will be alomost the same as normal shooting)

*. The purpose of the Programme AE which is the user could be shooting anytime anywhere.
To keep this, the Movie Camera must be adjusted the brightness of the picture depending on the lighting (illumination) condition.

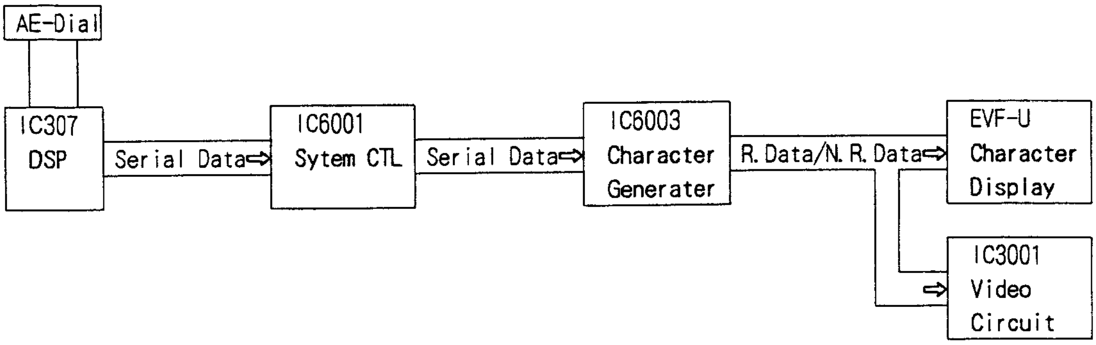
AE MODE	OSD (IN EVF)	FOCUS／WHITE B	SHUTTER SPEED	IRIS	GAIN CONTROL	How to keep the picture brightness? (Unique point)
AUTO	———	AUTO	FIXED 1/50	VARIABLE (ALC)	AGC	ALC & AGC
MANUAL	MNL	MANUAL	FIXED 1/50	VARIABLE (ALC)	AGC	ALC & AGC
SPORT		MANUAL	1/500 (1/500~1/50)	VARIABLE (ALC)	AGC	Keeps the S. SPD to 1/500sec. as much as possible(ALC/AGC)
PORTRAIT		MANUAL	VALIABLE 1/50~1/1500	FULLY OPEN (FIXED)	AGC (OFF)	Fully opens the iris as much as possible. (S. SPD/AGC)
LOW LIGHT		MANUAL	FIXED 1/50	VARIABLE (ALC)	AGC (NML G +α)	AGC gains up (Adding normal AGC gain +α)
———————	———	——	The brightness of the picture must be kept.			———————————

1. SHUTTER SPEED CONTROL

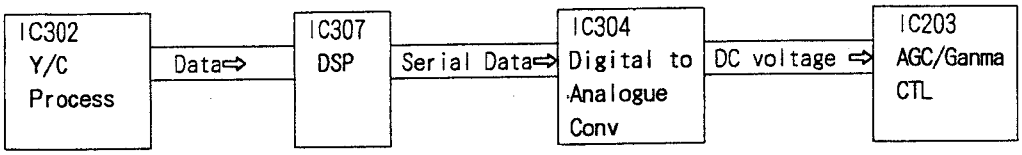
To achieve the "SPORTS" and "PORTRAIT" mode, the shutter speed and IRIS condition must be controled depending on the picture brightness.
(Fig T4 is Oeverall Blok Diagram for AE Control.)

When the set the AE Dial to "SPORTS" or "PORTRAIT" mode, these information apply to IC305(DSP).
Also IC305 receive the picture brightness information from IC302(Y/C process) through data-line.
According to these informations, IC305 generated the follwoing information/datas.

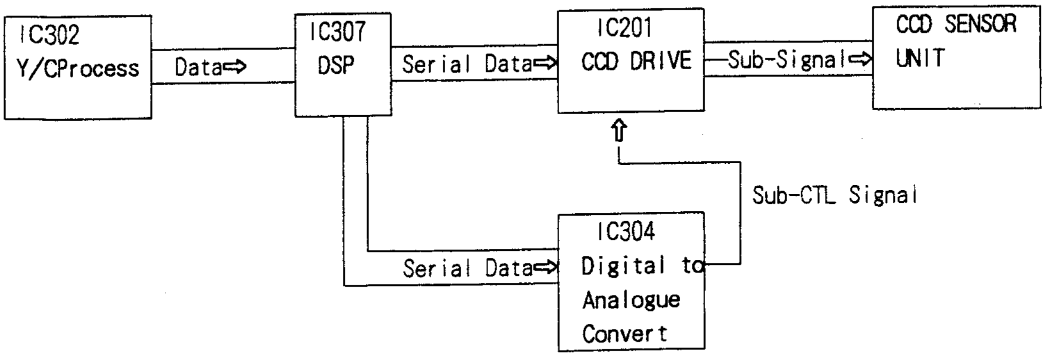
1). Mode information ①AE mode data apply to IC6001/IC6003.
②IC6003 generated the symbol mark signal of AE mode for display on the EVF.


AE-Dial
IC307
DSP
Serial Data⇨
IC6001
Sytem CTL
Serial Data⇨
IC6003
Character
Generater
R. Data/N. R. Data⇨
EVF-U
Character
Display
⇨
IC3001
Video
Circuit

2). Data for D/A
① IC307 recived picutre data from IC302 through data line.
② IC307 generated the data for AGC/SUB, PWM-bias etcs according to picture brightness.
③ These data apply to IC304(D/A) then converted to DC voltage.
After that apply to IC203 for contorol the AGC etcs.


IC302
Y/C
Process
Data⇨
IC307
DSP
Serial Data⇨
IC304
Digital to
Analogue
Conv
DC voltage ⇨
IC203
AGC/Ganma
CTL

3). Data for CCD drive ① IC307 recived picutre data from IC302 through data line.
② IC307 generated the data for SUB-CTL, this data apply to 304(D/A) then converted to DC voltage.
③ IC307 generated the data for CCD-Drive(IC202), IC202 generated the CCD-drive signal. (Sub-signal etcs)
Shutter-Speed chang according to Sub-signal.


IC302
Y/CProcess
Data⇨
IC307
DSP
Serial Data⇨
IC201
CCD DRIVE
Sub-Signal⇨
CCD SENSOR
UNIT
⇧
Sub-CTL Signal
Serial Data⇨
IC304
Digital to
Analogue
Convert

1. IRIS CONTROL

To control the picture brightness, The IRIS is also controled.

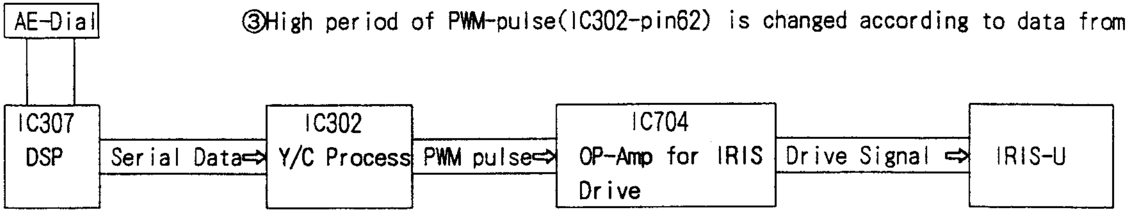
The IRIS opening condition is controlled by the ratio of the PWM output. (IC302-PIN 62) (When its high period is longer, the IRIS moves to more openning side.)

*. To achieve the "PORTRAIT" mode, the IRIS must be set to its maximum opening which results In a very small depth-of-field, In this case, high intensity lights is easlly to come into the CCD image sensor.
(To prevent this, the shutter speed is changing, up to 1/500 sec.)

*. In the "Low Light" mode, the PWM output is same as "AUTO" and "MANUAL" becouse of the avoiding like "PORTRAIT" mode's picture.

1). Mode information

①AE mode data apply to IC305.
②AE mode data apply to IC302 through data line from IC305.
③High period of PWM-pulse(IC302-pin62) is changed according to data from IC305.


AE-Dial
IC307
DSP
Serial Data⇨
IC302
Y/C Process
PWM pulse⇨
IC704
OP-Amp for IRIS Drive
Drive Signal ⇨
IRIS-U

Memo

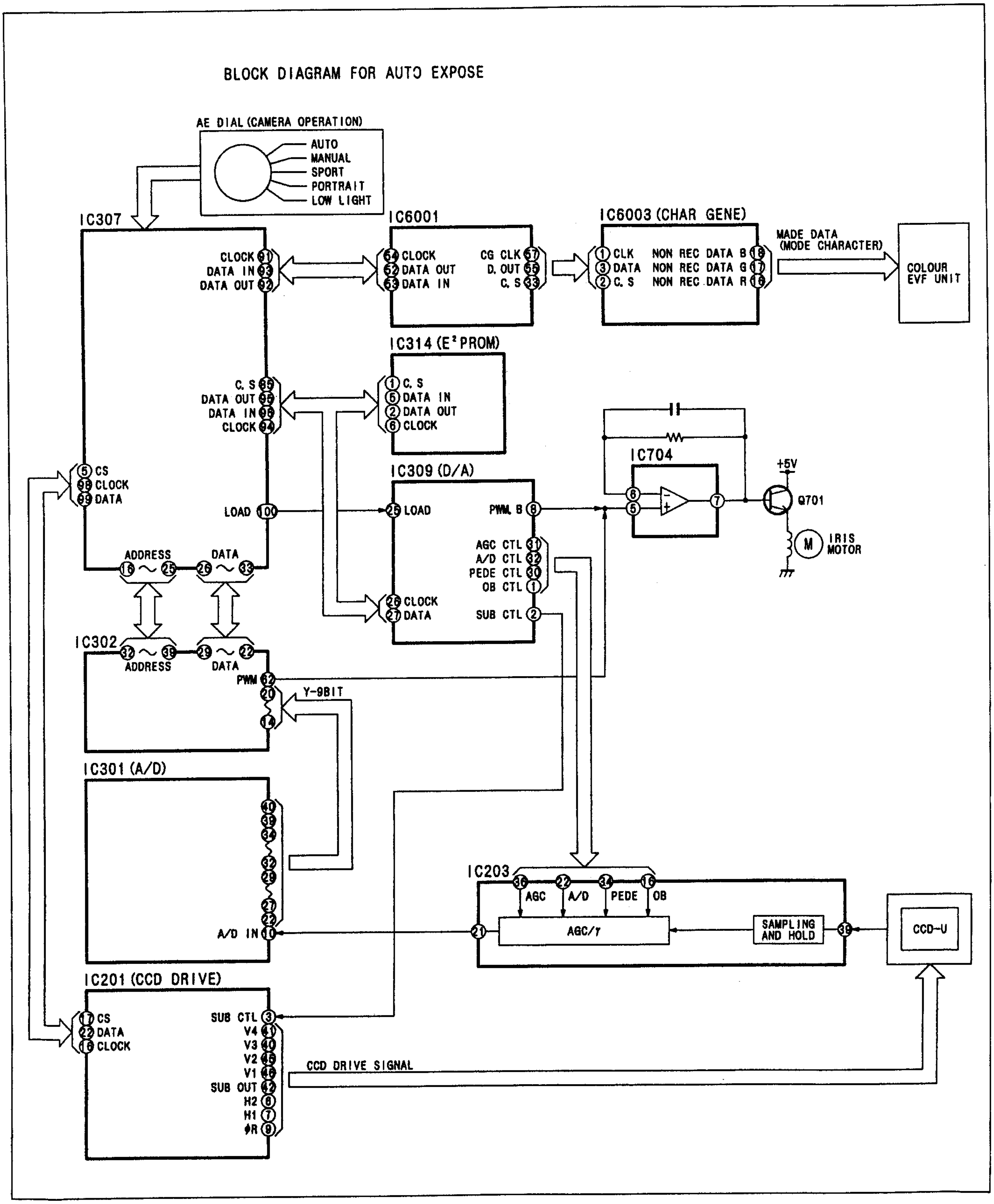

BLOCK DIAGRAM FOR AUTO EXPOSE
AE DIAL (CAMERA OPERATION)
AUTO
MANUAL
SPORT
PORTRAIT
LOW LIGHT
IC307
CLOCK 91
DATA IN 93
DATA OUT 92
C. S 95
DATA OUT 96
DATA IN 98
CLOCK 94
5 CS
98 CLOCK
99 DATA
LOAD 100
ADDRESS
16 ~ 25
DATA
26 ~ 33
IC6001
64 CLOCK
52 DATA OUT
53 DATA IN
CG CLK 57
D. OUT 55
C. S 33
IC6003 (CHAR GENE)
1 CLK
3 DATA
2 C. S
NON REC DATA B 18
NON REC DATA G 17
NON REC DATA R 16
MADE DATA
(MODE CHARACTER)
COLOUR
EVF UNIT
IC314 (E²PROM)
1 C. S
5 DATA IN
2 DATA OUT
6 CLOCK
IC309 (D/A)
25 LOAD
PWM. B 8
AGC CTL 31
A/D CTL 32
PEDE CTL 30
OB CTL 1
26 CLOCK
27 DATA
SUB CTL 2
IC704
6
5
7
+5V
Q701
M
IRIS
MOTOR
IC302
32 ~ 39
ADDRESS
29 ~ 22
DATA
PWM 62
20
14
Y-9BIT
IC301 (A/D)
40
39
34
32
29
27
22
A/D IN 10
IC203
36
AGC
22
A/D
34
PEDE
16
OB
21
AGC/γ
SAMPLING
AND HOLD
39
CCD-U
IC201 (CCD DRIVE)
17 CS
22 DATA
16 CLOCK
SUB CTL 3
V4 41
V3 40
V2 45
V1 46
SUB OUT 42
H2 8
H1 7
φR 9
CCD DRIVE SIGNAL

Fig. T2

The Built-in Lithium Battery

1. GENERAL DESCRIPTION

A built-in rechargeable lithium battery maintains the operation of the built-in clock when the Movie Camera is turned off. When the Movie Camera is in operation, this battery is charged automatically.
However, if the Movie Camera is not used for a very long time, the lithium battery can become exhausted. In this case, the "⊗" Indication in the Viewfinder flashes and the date returns to the initial Indication "1.1.1990".

2. HOW TO CHARGE THE LITHIUM BATTERY

■ How to Charge the Built-in Lithium Battery

If the "⊗" Indication in the Viewfinder flashes for approx. 10 seconds when you turn the Movie Camera on, the lithium battery is exhausted and must be charged as follows:

1. **Connect the Movie Camera to the AC Adaptor and leave it in this condition for several hours. It is not necessary to turn the Movie Camera on.**
   - ●After the lithium battery has been charged for approx. 4 hours, it can maintain the operation of the clock for approx. 3 months.

3. HOW TO REPLACE THE LITHIUM BATTERY

(PROCEDURES)

1. Remove the POWER C.B.A from Main Frame
   (Remove the Gold 2 Screw from Main Frame.
2. Unsolder the Lithium battery "VL2330" and then replace the new one. (See Fig B1)

Fig. B1

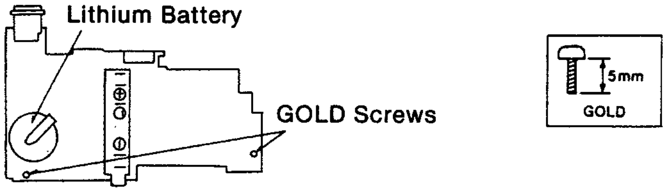


Fig. B1

NOTE:

The lithium battery is a critical component(Type No. : VL2330 Manufactured by Panasonic.)
It must never be subjected to excessive heat or discharge.
It must therefore only be fitted in equipment designed specifically for its use.
Replacement batteries must be of the same type and manufacturer.
They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
Do not attempt to re-charge the old battery or re-use it for any other purpose.
It should be disposed of in waste products destined for burial rather than incineration.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's instructions.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

SERVICE INFORMATION DISPLAY

General Description

This model has SERVICE INFORMATION DISPLAY function which facilitates quick trouble shooting.
You can turn on the Service Information Display, by performing the following procedures.
This causes the Service Information to be displayed on the EVF. (There are 4 kinds of SERVICE MODE, as shown below.) In the OSD Line Output Mode, Service Information can also be viewd on the TV.

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
OSD Line Output MODE	Checking the EVF information on the TV monitor.	DATE/TIME SET (UNDER THE EVF)	RESET (TOP PANEL)	DATE/TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
SERVICE MODE 1	· Remaining Battery A/D Value · Safety Device · Capstan/Cylinder injuctions	DATE/TIME SHIFT (TOP PANEL)	RESET (TOP PANEL)	DATE/TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 1, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 2	· Reference Voltage A/D Value · Mechanism position · Serial key code.	DATE TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 2, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 3	ERROR CODE Display	DATE TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 3, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 4	INDICATION FOR·PG SHIFTER VALUE	DATE TIME

ERROR CODE DISPLAY

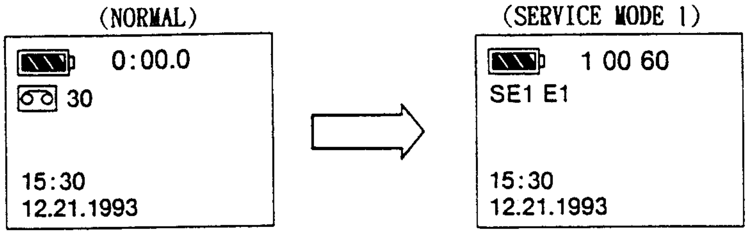
When undesirable conditions occur, the "ERROR CODE" will automatically be displayed on the EVF, the CAMERA LED will flash for a short time, then the power will be turned off.

By turning on Service Mode 3, you can check to see what kind of undesirable condition occured, even after the ERROR CODE has disappeared. You can check the Error Code if the AC Main Lead or the Battery has been disconnected.
This model has the built in rechargeable Lithium Battery.
It maintain the operation of the built-in clock and error code for Service Mode when the Movie Camera turn off.
To clear the ERROR CODE, make shoot the IC6001 Pin 25 to GND for reset the IC6001.
Indication for Built in Clock return to intial condition when make shoot the IC6001 Pin 25 to GND.

SERVICE MODE 1

① Remaining Battery Voltage (A/D Value) = This Value shows the voltage at IC6001 Pin 98 which detects the battery under cut.

Desplay:
(Example)



For example ⇒ S E 1 E 1 (Means you are in Service Mode 1 and the voltage at IC6001 Pin 98 is 3.35V.)

★ When the voltage at IC6001 pin98(the battery remaining voltage) and the voltage (approx. 3.35V) at IC6001 Pin 99(the reference voltage) became same level, battery under cut will be detected.

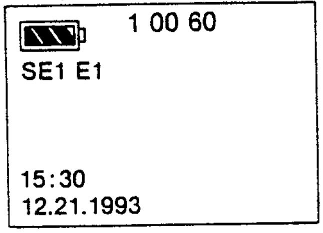
		Low Digit															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
High Digit	0	0	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.22
	1	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.41	0.43	0.45	0.46
	2	0.48	0.49	0.51	0.52	0.54	0.55	0.57	0.58	0.60	0.61	0.63	0.64	0.66	0.67	0.69	0.70
	3	0.72	0.73	0.75	0.76	0.77	0.79	0.80	0.81	0.83	0.85	0.86	0.88	0.89	0.91	0.92	0.94
	4	0.95	0.97	0.98	1.00	1.01	1.03	1.04	1.06	1.07	1.09	1.10	1.12	1.13	1.15	1.16	1.18
	5	1.19	1.21	1.22	1.24	1.25	1.27	1.28	1.30	1.31	1.33	1.34	1.36	1.37	1.39	1.40	1.42
	6	1.43	1.45	1.46	1.48	1.49	1.50	1.52	1.53	1.55	1.56	1.58	1.59	1.61	1.62	1.64	1.65
	7	1.67	1.68	1.70	1.71	1.73	1.74	1.76	1.77	1.79	1.80	1.82	1.83	1.85	1.86	1.87	1.89
	8	1.91	1.92	1.94	1.95	1.97	1.98	2.00	2.01	2.03	2.04	2.06	2.07	2.09	2.10	2.12	2.13
	9	2.15	2.16	2.18	2.19	2.21	2.22	2.24	2.25	2.26	2.28	2.29	2.31	2.32	2.34	2.35	2.37
	A	2.38	2.40	2.41	2.43	2.44	2.46	2.47	2.49	2.50	2.52	2.53	2.55	2.56	2.58	2.60	2.61
	B	2.62	2.64	2.65	2.67	2.69	2.70	2.71	2.73	2.74	2.76	2.77	2.79	2.80	2.82	2.83	2.85
	C	2.86	2.88	2.89	2.91	2.92	2.94	2.95	2.97	2.98	2.99	3.01	3.02	3.04	3.05	3.07	3.08
	D	3.10	3.11	3.13	3.14	3.16	3.17	3.19	3.20	3.22	3.23	3.25	3.26	3.28	3.29	3.31	3.32
	E	3.34	3.35	3.37	3.38	3.40	3.41	3.43	3.44	3.46	3.47	3.49	3.50	3.52	3.53	3.55	3.56
	F	3.58	3.59	3.61	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75	3.77	3.78	3.80

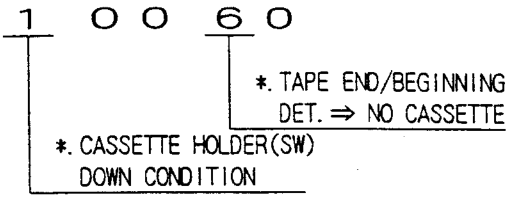
Remaining Battery Voltage (A/D value) (Voltage at IC6001 Pin 98)

② The condition of the tape, sefety device, capstan/cylinder information are shown in hexa decimal numbers.

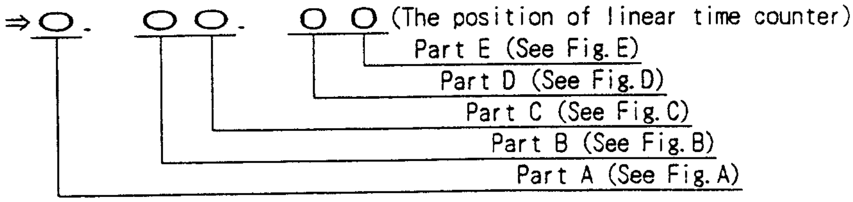
Desplay:
(Example)

(SERVICE MODE 1)


1 00 60
SE1 E1
15:30
12.21.1993


1 00 60
*. TAPE END/BEGINNING DET. ⇒ NO CASSETTE
*. CASSETTE HOLDER(SW) DOWN CONDITION

Display position ⇒


O. OO. OO
(The position of linear time counter)
Part E (See Fig. E)
Part D (See Fig. D)
Part C (See Fig. C)
Part B (See Fig. B)
Part A (See Fig. A)

CONTENTS \ DISPLAY	0	1	2	3	4	5	6	7	8	9	:	▷	◁	-	.	Φ
CASSETTE SW (CASS. DOWN:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
SAFETY TAB SW (TAB:1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
S-VHS OPERATIONSW (ON:1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
S-VHS DETECTION SW (S-VHS:1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. A

CONTENTS \ DISPLAY	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LOADING LOCK (DET. :1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
CYLINDER LOCK (DET. :1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
T-REEL LOCK (DET. :1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
S-REEL LOCK (DET. :1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. B

CONTENTS \ DISPLAY	0	4	8	C
NOT USED(ALWAYS "0")	0	0	0	0
NOT USED(ALWAYS "0")	0	0	0	0
BATTERY UNDER CUT(DET:1)	0	1	0	1
DEW SENSOR (DET:1)	0	0	1	1

Fig. C

CONTENTS \ DISPLAY	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
UN-LOADING COMMAND (OUTPUT:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
TAPE END DETECTION (DET. :1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
TAPE BEGINNING DETECTION(DET. :1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
POSITION CHATARING (DET. :1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. D

CONTENTS \ DISPLAY	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
CYLINDER ON (OUTPUT:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
CAPSTAN ON (OUTPUT:1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
CAPSTAN REV. (OUTPUT:1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
LOADING ON (OUTPUT:1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. E

SERVICE MODE 2

① Reference voltage A/D Value =This value shows the voltage at IC6001 Pin 99 which is used as a reference voltage to detect the battery under cut.

Desplay :
(Example)

(SERVICE MODE 1)

1 00 60
SE1 E1

15:30
12.21.1993

⇨

(SERVICE MODE 2)

3 00 FF
SE2 A7

15:30
12.21.1993

For example ⇒ S E 2 A 7 (It shows Service Mode 2 and the voltage at IC6001 pin 99 is 2.49V.)

(unit:V)

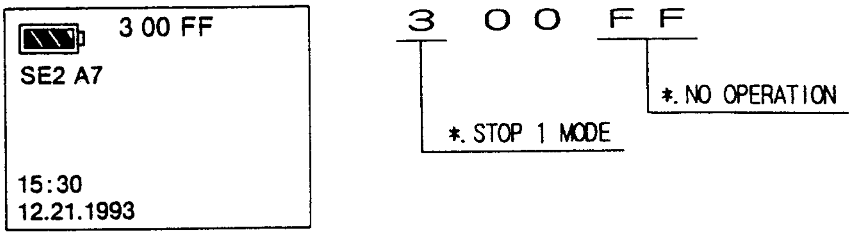
		Low Digit															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
High Digit	0	0	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.22
	1	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.41	0.43	0.45	0.46
	2	0.48	0.49	0.51	0.52	0.54	0.55	0.57	0.58	0.60	0.61	0.63	0.64	0.66	0.67	0.69	0.70
	3	0.72	0.73	0.75	0.76	0.77	0.79	0.80	0.81	0.83	0.85	0.86	0.88	0.89	0.91	0.92	0.94
	4	0.95	0.97	0.98	1.00	1.01	1.03	1.04	1.06	1.07	1.09	1.10	1.12	1.13	1.15	1.16	1.18
	5	1.19	1.21	1.22	1.24	1.25	1.27	1.28	1.30	1.31	1.33	1.34	1.36	1.37	1.39	1.40	1.42
	6	1.43	1.45	1.46	1.48	1.49	1.50	1.52	1.53	1.55	1.56	1.58	1.59	1.61	1.62	1.64	1.65
	7	1.67	1.68	1.70	1.71	1.73	1.74	1.76	1.77	1.79	1.80	1.82	1.83	1.85	1.86	1.87	1.89
	8	1.91	1.92	1.94	1.95	1.97	1.98	2.00	2.01	2.03	2.04	2.06	2.07	2.09	2.10	2.12	2.13
	9	2.15	2.16	2.18	2.19	2.21	2.22	2.24	2.25	2.26	2.28	2.29	2.31	2.32	2.34	2.35	2.37
	A	2.38	2.40	2.41	2.43	2.44	2.46	2.47	2.49	2.50	2.52	2.53	2.55	2.56	2.58	2.60	2.61
	B	2.62	2.64	2.65	2.67	2.69	2.70	2.71	2.73	2.74	2.76	2.77	2.79	2.80	2.82	2.83	2.85
	C	2.86	2.88	2.89	2.91	2.92	2.94	2.95	2.97	2.98	2.99	3.01	3.02	3.04	3.05	3.07	3.08
	D	3.10	3.11	3.13	3.14	3.16	3.17	3.19	3.20	3.22	3.23	3.25	3.26	3.28	3.29	3.31	3.32
	E	3.34	3.35	3.37	3.38	3.40	3.41	3.43	3.44	3.46	3.47	3.49	3.50	3.52	3.53	3.55	3.56
	F	3.58	3.59	3.61	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75	3.77	3.78	3.80

Reference Voltage (A/D value) (Voltage at IC6001 Pin 99)

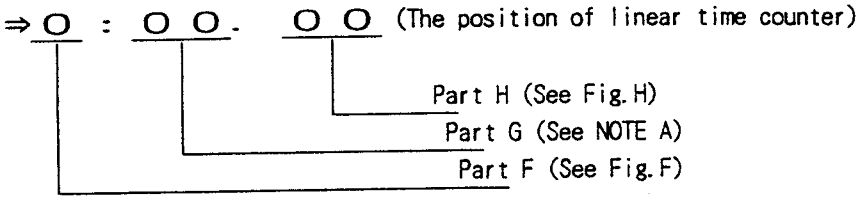
② The contents of mechanism position, serial key code and mechanical process number are shown in hexa decimal number.

Desplay:
(Example)

(SERVICE MODE 2)


3 00 FF
SE2 A7
15:30
12.21.1993
3 0 0 F F
*. STOP 1 MODE
*. NO OPERATION

Display position


⇒ 0 : 0 0 . 0 0
(The position of linear time counter)
Part H (See Fig. H)
Part G (See NOTE A)
Part F (See Fig. F)

DISPLAY	MECHANISM POSITION
1	EJECT
2	PRE·EJECT
3	STOP 1
4	PRE·STOP
5	(MID)
6	
7	
8	STOP 2
9	———
A	PLAY

Fig. F (Mechanism Position)

DISPLAY	KEY CODE
0 0	STOP
0 1	EJECT
0 2	REW
0 3	FF
0 6	PAUSE
0 8	REC/REC PAUSE
0 A	PLAY
F F	NO OPERATION

Fig. H (Key code)

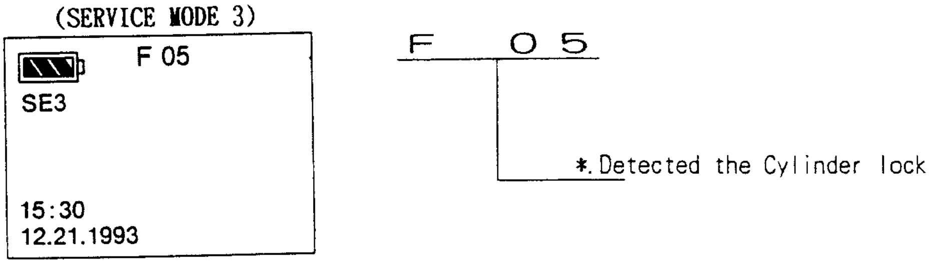
NOTE A:

This part shows mechanism movement process.
However it changes too fast to read it.
When servicing, use the Part F (Mechaism Position:See Fig. F) in stead of Part G.
in stead of Part G.

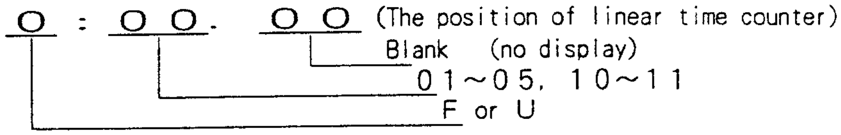
SERVICE MODE 3

① When undesirable conditions occur, the Error Code is stored in IC6001 automatically, using the Lithum battery.
When you turn on Service Mode 3, the Error Code is displayed on the E.V.F.
Also, the CAMERA LED is flashed according to Error code.

Desplay:
(Example)


(SERVICE MODE 3)
F 05
SE3
15:30
12.21.1993
F 05
*.Detected the Cylinder lock

Display position ⇒
(See Fig. I)


0 : 0 0. 0 0 (The position of linear time counter)
Blank (no display)
01~05, 10~11
F or U

Display position⇒CAMERA LED (See Fig. J)

DISPLAY	CONDITION	The Power off timing
F 0 1	T-REEL LOCK	After 1 minute flashing LED
F 0 2	S-REEL LOCK	After 1 minute indicating LED
F 0 3	UNLOADING LOCK	After 1 minute indicating LED
F 0 4	LOADING LOCK	After 1 minute indicating LED
F 0 5	CYLINDER LOCK	After 1 minute indicating LED
F 5 1	FOCUS MOTOR LOCK	-------------------
F 5 2	ZOOM MOTOR LOCK	-------------------
U 1 0	DEW DETECTION	After 18 minute indicating LED
U 1 1	HEAD CLOGGING	Not turning off

Figure I Error Code

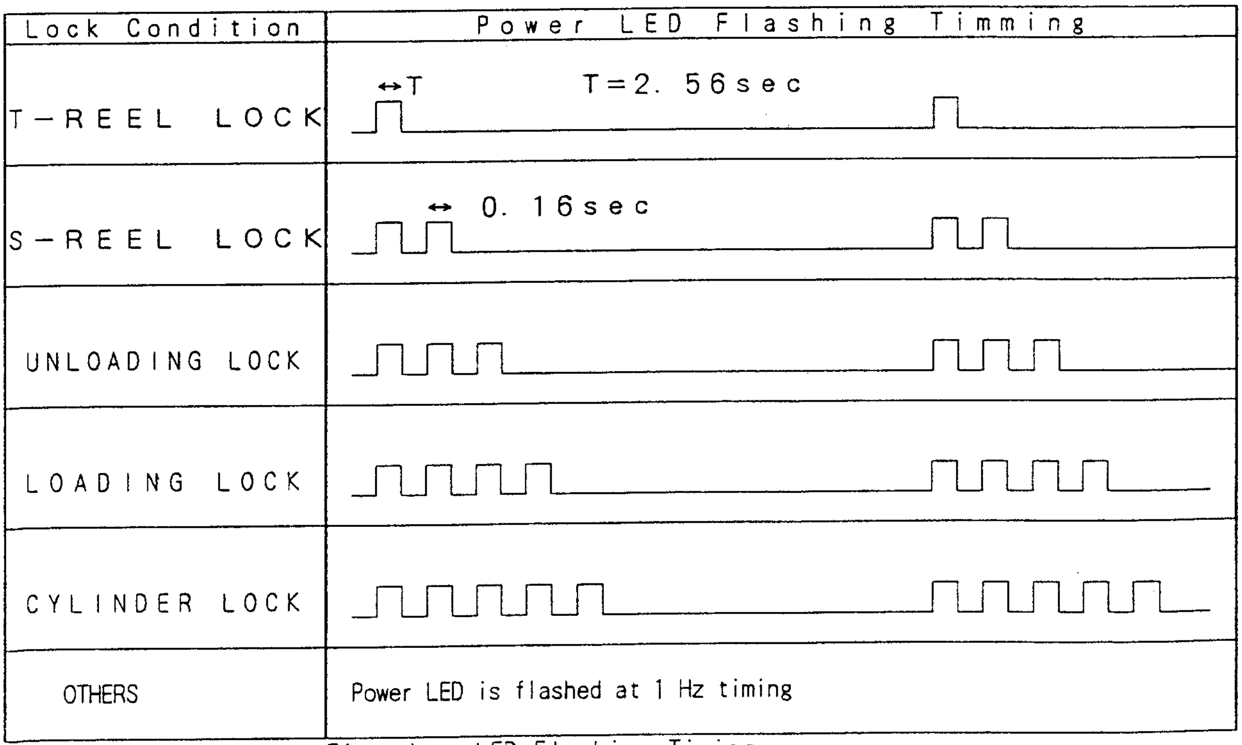

Lock Condition
Power LED Flashing Timming
T-REEL LOCK
↔T
T=2. 56sec
S-REEL LOCK
↔ 0. 16sec
UNLOADING LOCK
LOADING LOCK
CYLINDER LOCK
OTHERS
Power LED is flashed at 1 Hz timing

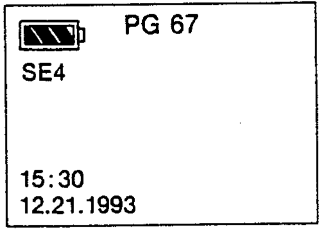
Fig. J LED Flashing Timing

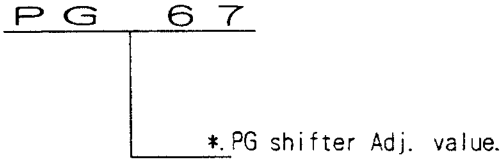
SERVICE MODE 4

① Service Mode 4 is PG SHIFTER ADJUSTMENT mode for Servo section.
For more detail, please refer to Adjustment Service Manual Order No. VMD9506M128

Desplay :
(Example)

(SERVICE MODE 3)


PG 67
SE4
15:30
12.21.1993


PG 67
*. PG shifter Adj. value.

3. How to Check Digital Circuit

3-1. Checking Principle

The digital circuit can be checked if a ramp signal(Sawtooth signal) is supplied to the input of A/D Converter(IC301-10).
The output of A/D Converter is described below.
In addtion to the A/D Converter IC301 output, all digital ICs input and output signals becomes specified pulses, which are listed in schematic diagram.

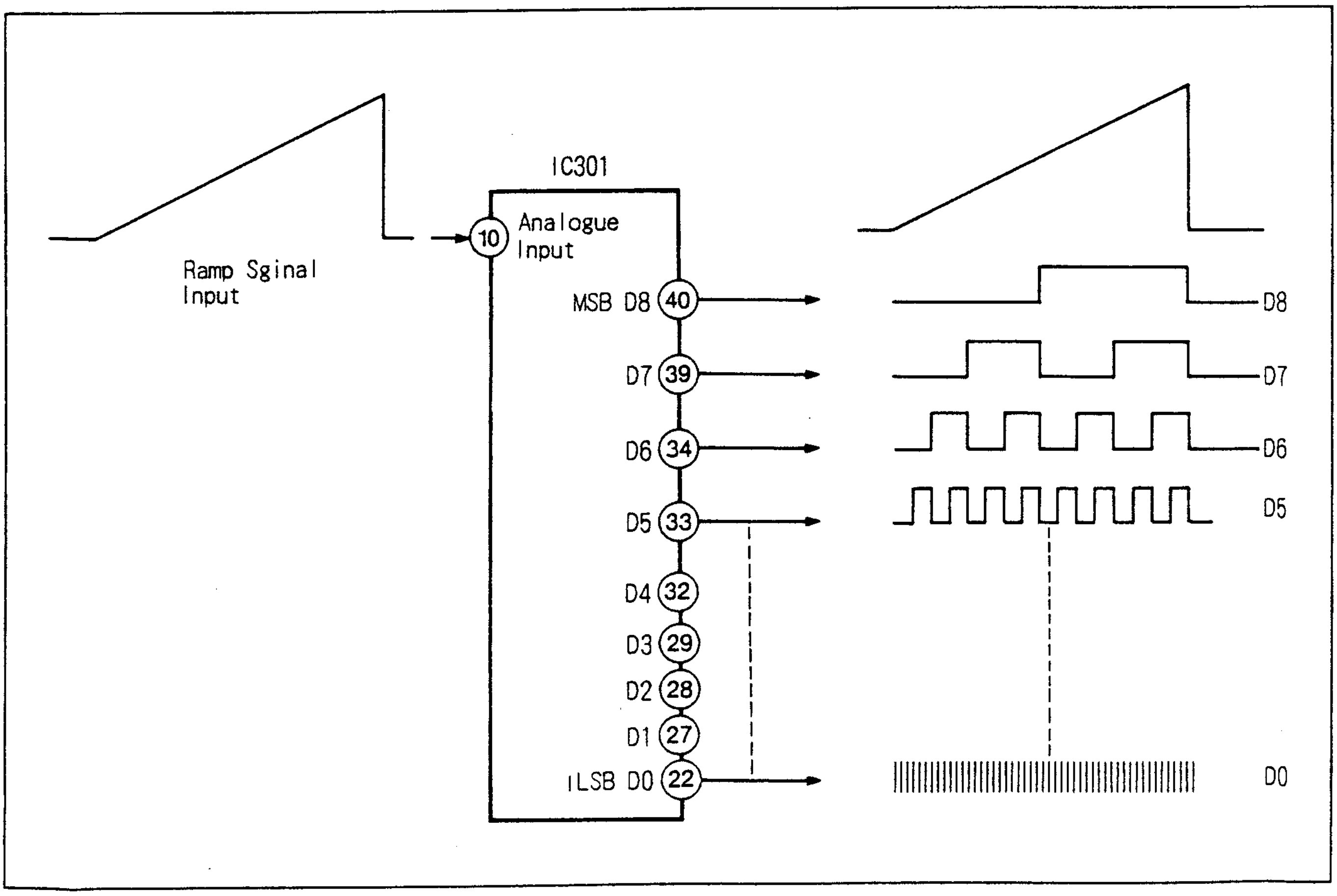
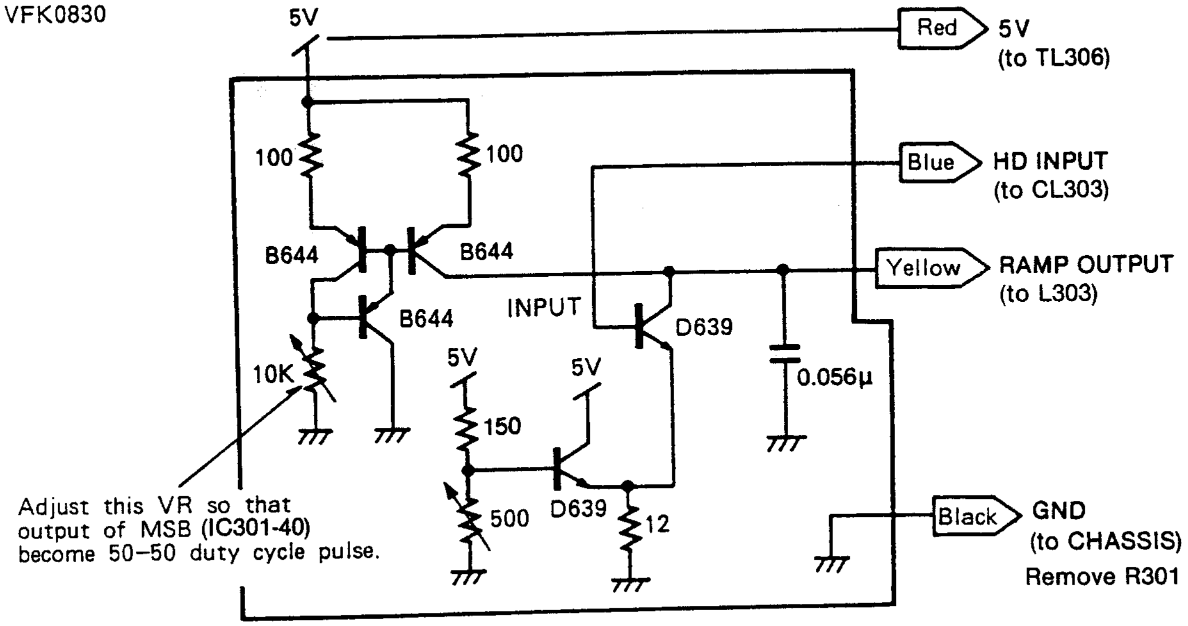

IC301
Ramp Sginal Input
⑩
Analogue Input
MSB D8 ㊵
D7 ㊴
D6 ㉞
D5 ㉝
D4 ㉜
D3 ㉙
D2 ㉘
D1 ㉗
LSB D0 ㉒
D8
D7
D6
D5
D0

Fig. L1

3-2. How to Connect ramp generator.

In order to generate a ramp signal that synchronize with the HD signal(Horizontal Drive) of the camera, the following ramp generator circuit has been designed.
Construct and connect it to process borad as shown in Fig. L2, L3.

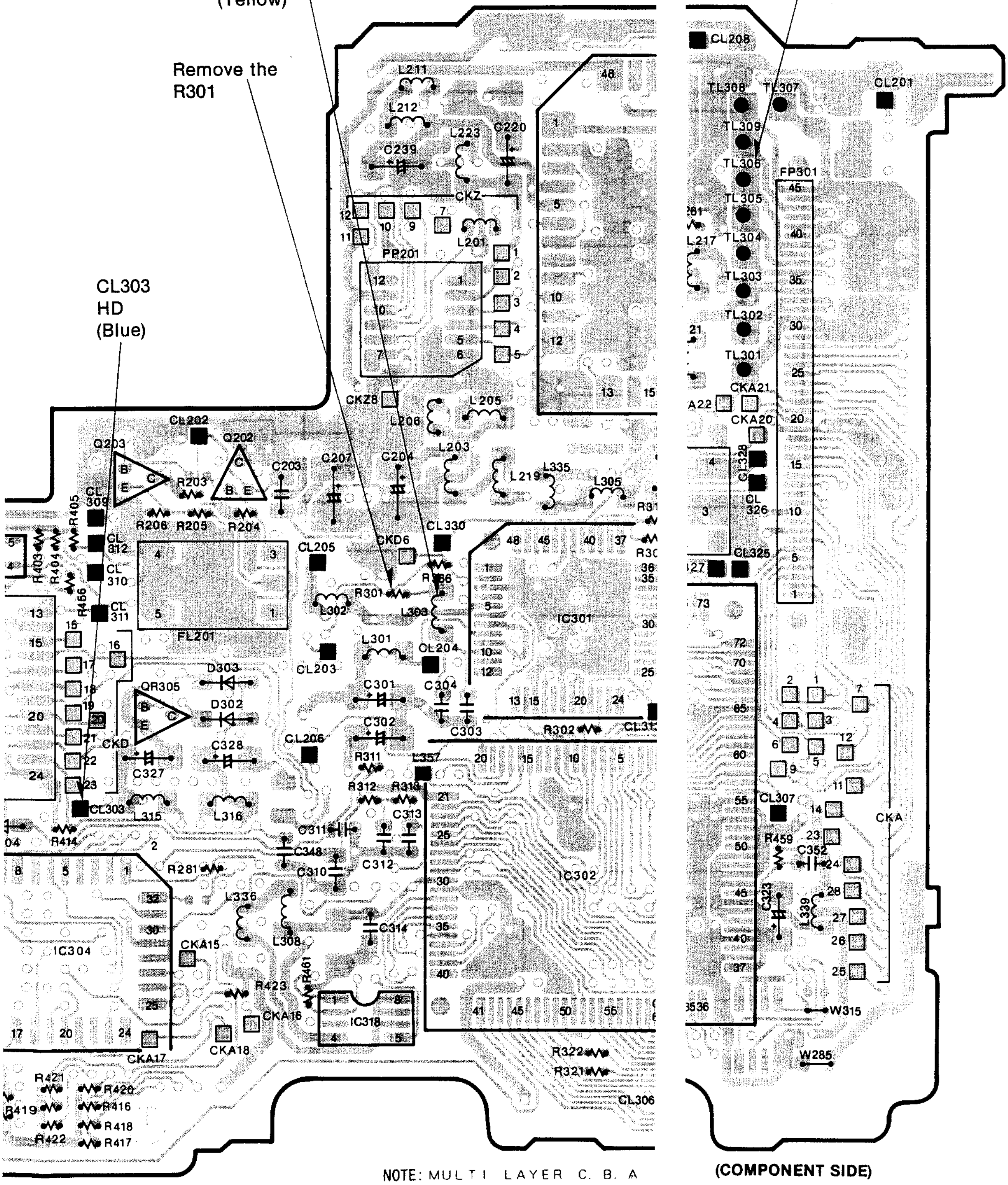

VFK0830
5V
100
100
B644
B644
B644
10K
INPUT
5V
150
5V
D639
D639
500
12
0.056µ
Red
5V
(to TL306)
Blue
HD INPUT
(to CL303)
Yellow
RAMP OUTPUT
(to L303)
Black
GND
(to CHASSIS)
Remove R301

Adjust this VR so that output of MSB (IC301-40) become 50-50 duty cycle pulse.

ITEMS	VALUE	PCS
RESISTOR		
ERDS2TJ120	**12ohm**	1
ERDS2TJ101	**100ohm**	2
ERDS2TJ151	**150ohm**	1
VARIABLE RESISTOR		
EVNDRAA00B14	10Kohm	1
EVNDRAA00B52	500ohm	1
TRANSISTOR		
2SB644	**PNP**	**3**
2SD639	**NPN**	**2**
CAPACITOR		
ECQB1H563JH	**0.056µ**	1

Fig. L2

CAMERA MAIN C.B.A.


L211
L212
L223
C220
C239
CKZ
L201
FP201
CKZ8
L205
L206
L203
L219
L335
L305
C204
C207
C203
Q202
Q203
CL202
R203
R206
R205
R204
R405
R403
R404
R456
CL 309
CL 312
CL 310
CL 311
FL201
CL205
CKD6
CL330
R301
R306
L302
L303
L301
CL203
CL204
IC301
C301
C304
C302
C303
R302
D303
D302
QR305
CKD
C328
C327
CL206
R311
R312
R310
L357
C313
C311
C348
C310
C312
C314
L315
L316
CL303
R414
R281
L336
L308
IC304
CKA15
R423
R461
CKA16
IC318
IC302
CKA17
CKA18
R421
R420
R419
R416
R422
R418
R417
R322
R321
CL306
CL208
TL308
TL307
TL309
TL306
TL305
TL304
TL303
TL302
TL301
CL201
FP301
L217
CKA21
CKA20
A22
CL328
CL 326
CL325
CL307
R459
C352
C323
L339
CKA
W315
W285

L303
Connect the output
of Ramp-Generator
(Yellow)

TL306
+5V
(Red)

Remove the
R301

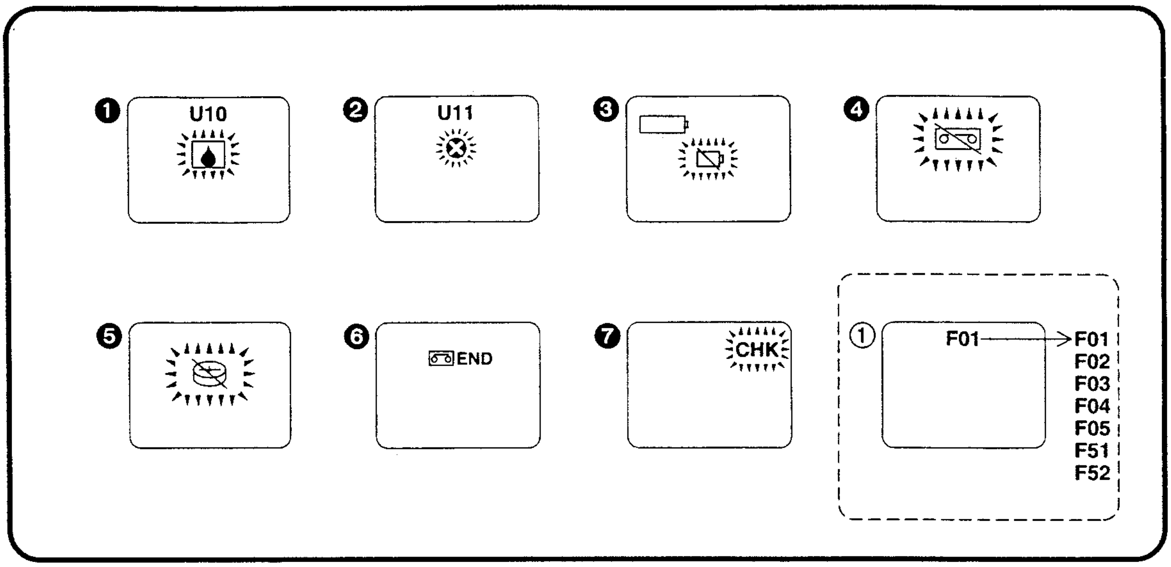
CL303
HD
(Blue)

NOTE: MULTI LAYER C.B.A

(COMPONENT SIDE)

Fig. L3

SECTION 1
GENERAL DESCRIPTIONS



Indications in the Viewfinder

■ Warning/Alarm Indications

❶ Condensation

❷ Video Head Clogging

❸ Remaining Battery Power
When the last segment of this indication has disappeared, the "CAMERA" Indication Lamp flashes for a few seconds, and then the Movie Camera automatically switches off. Replace the Battery Pack with a fully charged one.

❹ Tape
When no video cassette is inserted, or when the tab of the inserted video cassette is broken out, this indication flashes. Insert a video cassette with intact tab.

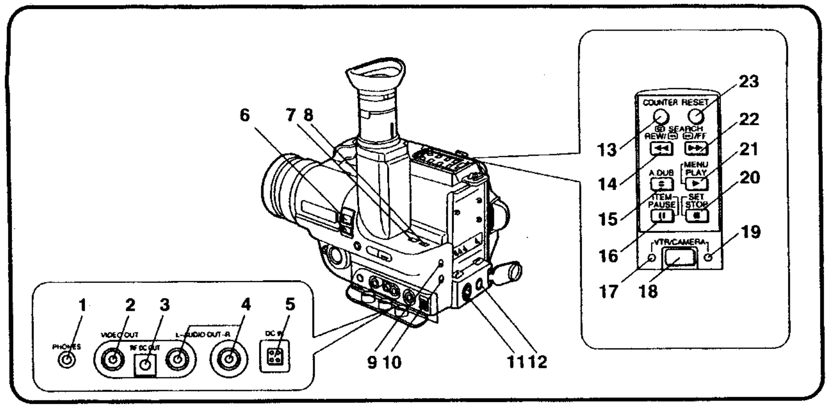
❺ Built-in Lithium Battery
The built-in Lithium Battery is exhausted; charge it.

❻ End of the Tape
When the tape has reached its end, this indication lights. Insert a new Video Cassette.

❼ Anti-Ground-Shooting

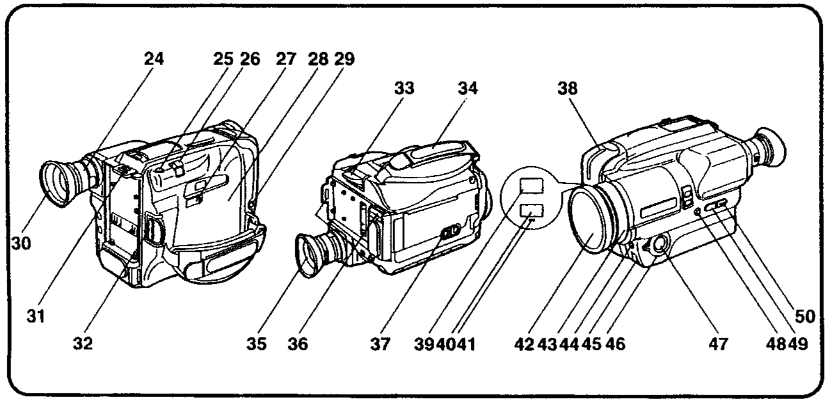
① Error Code
(Error codes are information for service personnel.)
If the "F" Indication appears in the Viewfinder, some malfunction has occurred. If the indicated error code is between "F01" and "F05", the Movie Camera will turn itself off automatically one minute after the "CAMERA" Lamp has started to flash. (If the indication is "F51" or "F52", the Movie Camera will not turn off automatically.)
If one of the Error Codes is displayed, write it down and tell it to the service personnel.

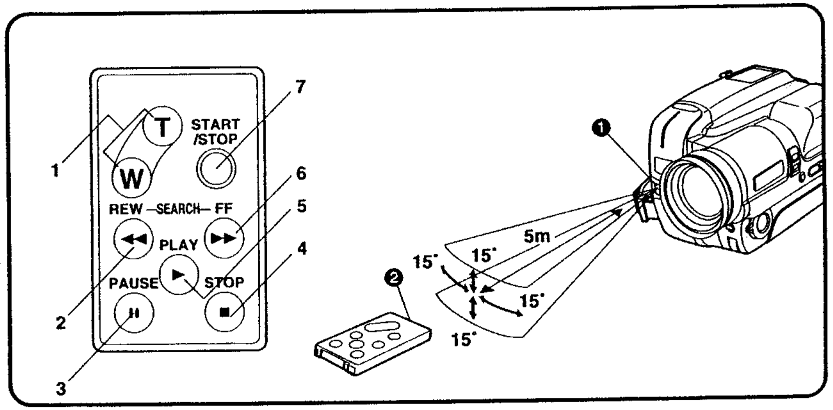
F01: Locked Take Up-Reel
F02: Locked Supply-Reel
F03: Locked Unloading Mechanism
F04: Locked Loading Mechanism
F05: Locked Cylinder
F51: Locked Focus Motor
F52: Locked Zoom Motor


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
PHONES
VIDEO OUT
RF DC OUT
L-AUDIO OUT-R
DC IN
COUNTER RESET
SEARCH
REW
FF
A.DUB
MENU
PLAY
ITEM
PAUSE
SET
STOP
VTR/CAMERA

Controls and Components

1 [PHONES] Socket
2 [VIDEO OUT] Socket
3 [RF DC OUT] Socket
4 [AUDIO OUT L/R] Sockets
5 [DC IN] Socket
6 [DIGITAL] Buttons
7 [DATE/TIME/SHIFT • ◀ TRACKING] Button
8 [DATE/TIME/SET • TRACKING ▶] Button
9 [POWER SAVE] Switch
10 [AUDIO SELECT] Switch
11 [S-VIDEO OUT] Socket
12 [NEW EDIT] Socket
13 [COUNTER] Button
14 [◀◀] Button
15 [≑] Button
16 [❚❚] Button
17 "VTR" Indication Lamp
18 [VTR/CAMERA] Button
19 "CAMERA" Indication Lamp
20 [■] Button
21 [▶] Button
22 [▶▶] Button
23 [RESET] Button
24 Eyepiece Corrector Ring
25 [SNAPSHOT REC] Button
26 [W • T] Zoom Lever
27 [▲ EJECT] Lever
28 Cassette Compartment Cover
29 [MIC] Socket
30 Eyecup
31 [BATTERY EJECT] Lever
32 Start/Stop Button
33 [POWER] Switch
34 Grip Belt
35 Viewfinder
36 Shoulder Strap Holders
37 Tripod Receptacle
38 Microphone
39 White Balance Sensor
40 Remote Control Sensor
41 Tally Lamp
42 Lens Cap
43 Focus Ring
44 [FOCUS] Button
45 [SHUTTER/IRIS] Control
46 [AE] Selector
47 [SHUTTER/IRIS] Button
48 [W.B] Button
49 [FADE] Button
50 [DATE/TIME] Button


24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50


1
2
3
4
5
6
7
T
W
START
/STOP
REW –SEARCH– FF
PLAY
PAUSE
STOP
❶
❷
5m
15°
15°
15°
15°

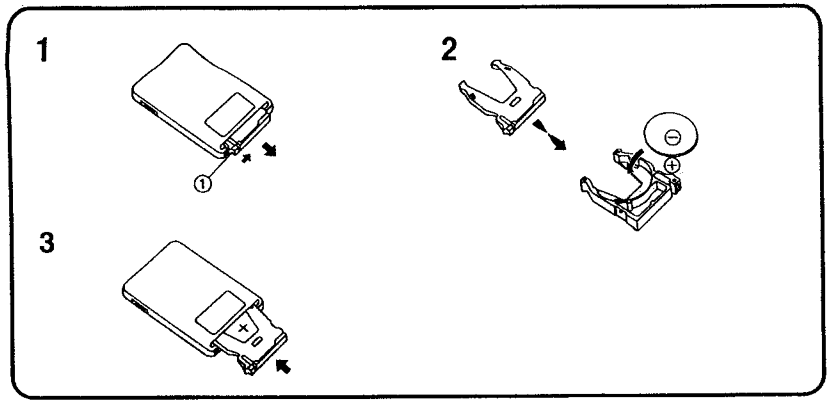
9 How to Use the Remote Controller

When you want to take part in the action that you are shooting, you can start and pause shooting as well as operate the zoom and other functions simply by pressing a button on the Remote Controller (supplied). Aim it at the Remote Control Receiver Window ❶ on the front of the Movie Camera and press the corresponding Button. For details about the functions of the buttons on the Remote Controller, refer to the corresponding pages (listed below). However, except on this page, the use of the Remote Controller is not explained in this manual.

Notes:

- Do not cover the transmitter window ❷ on the Remote Controller with your hand, etc.
- The Remote Controller may not operate correctly if it is used in direct sunlight, near fluorescent lamps or too close to the Movie Camera.
- When using the Remote Controller outdoors, operating range may become shorter than 5 metres.
- To prevent inadvertent operation of other infra-red remote-controlled units, this Movie Camera needs to receive each infra-red command 3 times.
  For this reason, there is a slight delay between pressing the [W] or [T] Button on the Remote Controller and the actual operation of the mechanical zoom function on the Movie Camera.

1 [W • T] Zoom Buttons
2 [◀◀] Button
3 [❚❚] Button
4 [■] Button
5 [▶] Button
6 [▶▶] Button
7 [START/STOP] Button



■ How to Insert the Button-Type Battery

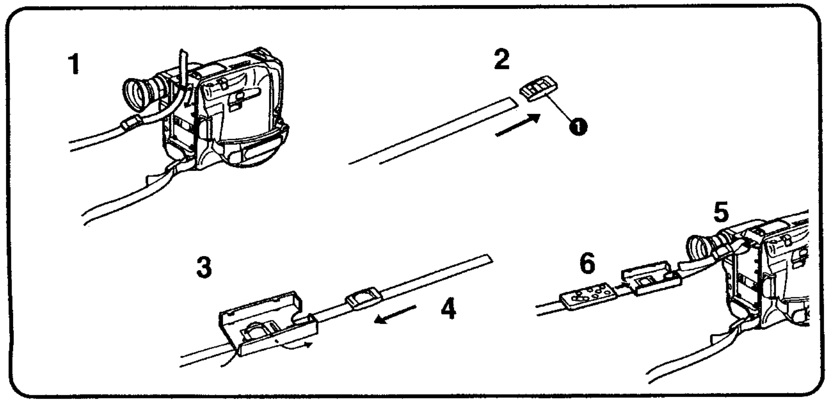
1. **Pull out the Battery Holder while pushing the stopper ①.**
2. **Turn the Battery Holder upside down and insert the Battery with the (+) mark facing downward until it locks with a click. Confirm that the polarity is correctly aligned [(−) side must face upward toward the open side of the Battery Holder.]**
3. **Insert the Battery Holder into the Remote Controller.**

■ Replacing the Button-Type Battery

The life of the battery is about one year.
Replace the exhausted battery with a new CR2025 Battery.

CAUTION

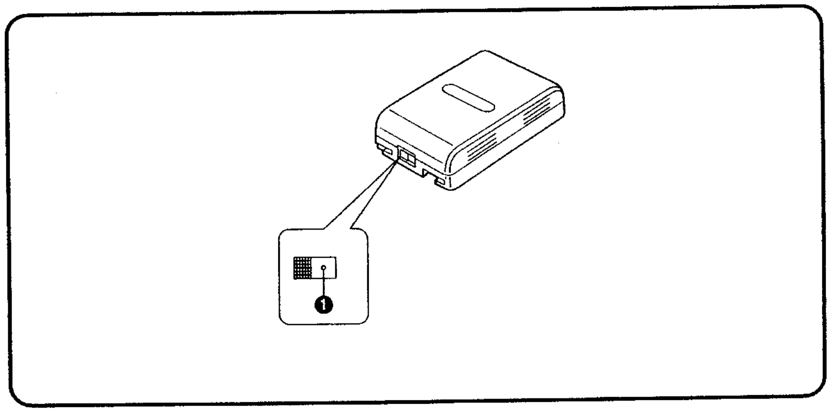
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.



■ How to Use the Remote Controller Holder

(To keep the Remote Controller handy when you go out shooting)

1. **Remove one end of the Shoulder Strap from the Movie Camera.**
2. **Remove the Shoulder Strap Adjuster ❶.**
3. **Pull the Shoulder Strap in the direction of the arrow through the two slits on the back of the Remote Controller Holder.**
4. **Re-insert the Shoulder Strap Adjuster.**
5. **Re-attach the Shoulder Strap to the Movie Camera.**
6. **Insert the Remote Controller securely into the Holder.**



■ Charging Time and Maximum Time for Continuous Shooting in the Manual Shooting Mode

Battery Pack No.	Charging Time	Max. Continuous Shooting Time
Supplied	Approx. 60 min.	Approx. 40 min.
VW-VBS10E	Approx. 65 min.	Approx. 40 min.
VW-VBS20E	Approx. 130 min.	Approx. 80 min.
VW-VBH10E	Approx. 80 min.	Approx. 50 min.
VW-VBH20E	Approx. 160 min.	Approx. 100 min.

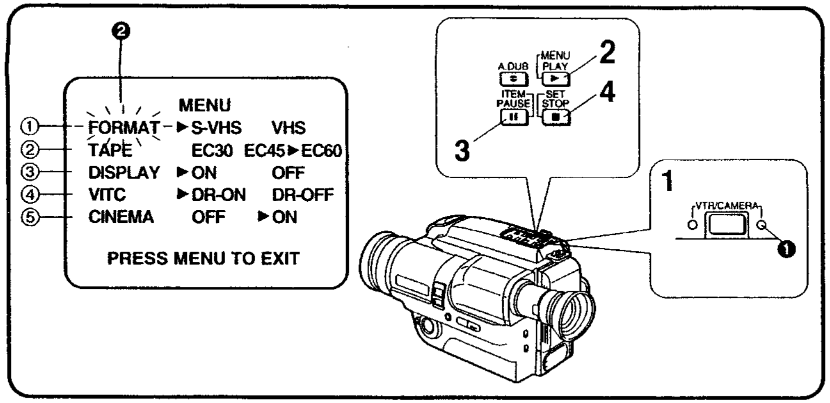
Notes:

- Depending on the condition of the Battery Pack, the charging time may be longer than listed above.
- The use of the zoom and other functions increases the power consumption, so that the actual recording time per Battery Pack may actually be 30%–50% less than the max. continuous shooting time listed above.
- When turning on the Movie Camera after attaching the Battery Pack, the Remaining Battery Power Indication initially indicates a fully charged Battery Pack regardless of its actual charging condition.
  Approx. 1 minute later, the indication changes and shows the approximate battery power actually remaining.

How to charge a Battery Pack if its operation time has become too short for practical use, or if it has been stored for a long time:
Continue charging for 24 hours even after the Charging Indication Lamp on the AC Adaptor goes out.
(If this does not result in an operation time sufficient for practical use, the service life of this Battery Pack has reached its end. Replace it with a new one.)

■ How to Use the Charge Confirmation Marker

Use this marker to distinguish between charged and discharged Battery Packs.
For example, slide the knob so that the dot ❶ is visible after the charging is completed.



4 How to Use the Menu Function

The Menu Function is used to select the items displayed in the Viewfinder as shown above.

Notes:
- While the Menu is displayed, shooting is not possible.
- The selections made on the "MENU" screen will be maintained even when the Movie Camera is turned off.
- When the Movie Camera is connected to a TV set, it is possible to display the "MENU" on the TV screen.

① **For selecting the VHS mode or Super-VHS mode**

② **For selecting the tape length of the video cassette being used**

③ **For turning the On-Screen Display function on or off**

④ **For selecting the desired user code system for the VITC**

⑤ **For selecting the Cinema mode**

1 **Press to select the "CAMERA" mode.**
- The "CAMERA" Indication Lamp ❶ lights up.

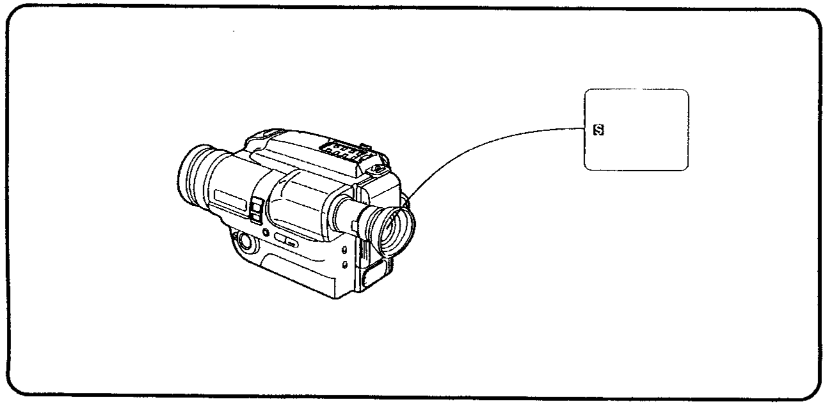
2 **Press the [▶] Button.**
- The "MENU" Indication appears in the Viewfinder.

3 **Press the [❚❚] Button repeatedly to select the desired item.**
- The indication of the selected item ❷ flashes.

4 **Press the [■] Button to select the desired mode.**
- The selected mode is marked with the "▶" mark.

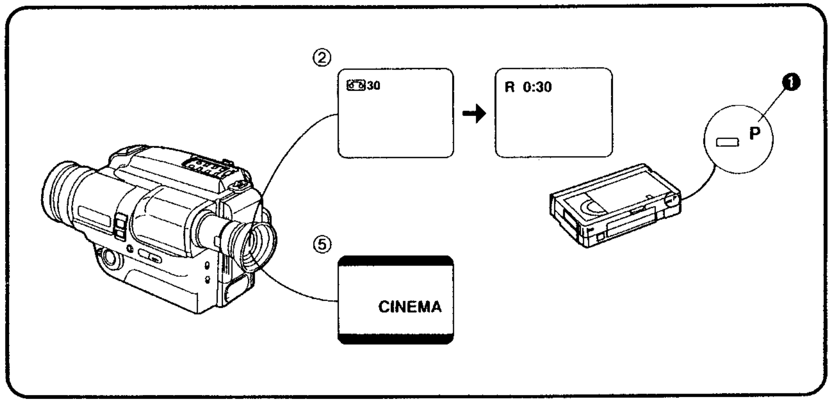
■ To Exit the Menu Function

Press the [▶] Button again.



① **For selecting the VHS mode or Super-VHS mode**
When the Super-VHS mode is selected, the indication "S" is displayed in the Viewfinder.
(However, when a normal VHS-C video cassette is inserted in the Movie Camera, the indication "S" does not appear, because recording in the Super-VHS mode is not possible on a normal VHS-C video cassette.)

Notes:
1. When using an Super-VHS-C video cassette that you want to play back on a standard VHS VTR (carrying the VHS logo), be sure to set the Movie Camera to the VHS mode. If an Super-VHS recording is played back on a standard VHS VTR, the picture will be totally distorted.
   However, by connecting this Movie Camera directly to a TV set, playback of Super-VHS recordings becomes possible.
   A standard VHS VTR that also carries the "SQPB" logo (Super-VHS-Quasi Playback), on the other hand, is capable of playing back Super-VHS recordings.
2. When playing back video cassettes on this Movie Camera, the format used for shooting will be detected and automatically selected for playback.

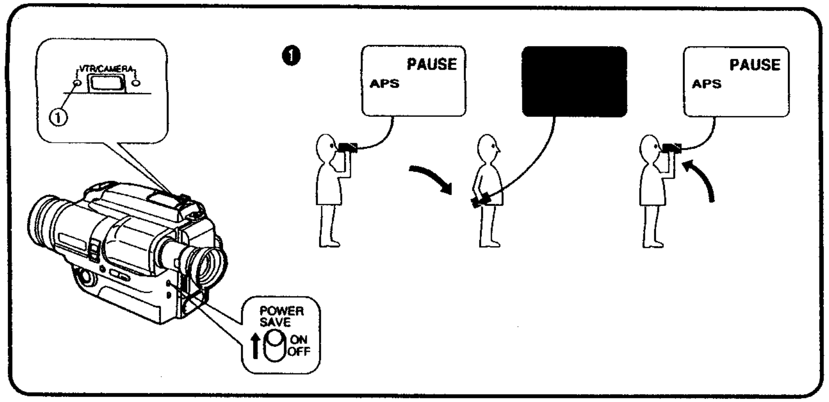


② **For selecting the tape length of the video cassette being used**
- Select the Tape Length Indication ("EC 30", "EC 45" or "EC 60") that matches the video cassette being used.
- During shooting and playback, the remaining tape time is displayed in minutes instead of the Tape Length Indication "▭ 30", "▭ 45" or "▭ 60".

Notes:
1. The Remaining Tape Time is not displayed until shooting or playback is started.
2. While the Movie Camera calculates the Remaining Tape Time, the "R" Indication flashes in the Viewfinder. "R" means Remaining.
3. When the Remaining Tape Time becomes less than 2 minutes, the Indication "R" and the Remaining Tape Time Indication start to flash.
4. When using a video cassette carrying the "P" mark ❶ or an Super-VHS-C video cassette, the Tape Counter Indication may not be very precise.

③ **For turning the On-Screen Display function on or off**
When set to "OFF", only the Warning/Alarm Indications and the Tape Running Indications will appear in the Viewfinder.

⑤ **For selecting the Cinema mode**
When set to "ON", a black band appears at the top and bottom of the Viewfinder, and the scenes shot in this mode can be played back in a "cinema-like" wide-screen format on an ordinary TV set.



5 How to Use the POWER SAVE Switch

If you set the [POWER SAVE] Switch to "ON", the "APS" Indication is displayed in the Viewfinder, and the Auto Power Save Function and the Anti-Ground-Shooting Function prevent you from wasting battery power and from accidentally shooting the ground when you forget to stop shooting.
When you don't want to use these functions, set the [POWER SAVE] Switch to "OFF".

When changing locations between scenes or when not planning to shoot for a longer period of time, it is recommended to turn off the Movie Camera with the [POWER] Switch.

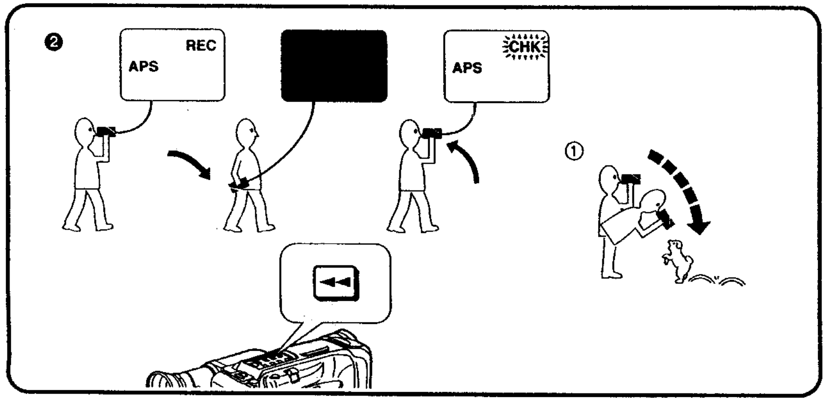
❶ Auto Power Save Function
(in the Shooting Pause Mode)
- The Battery Pack can be used longer for shooting.
- The Movie Camera automatically prevents shooting, even when the Start/Stop Button is pressed accidentally.

When you tilt the Movie Camera downwards by more than about 70° from the normal horizontal shooting position for more than a few seconds, the Viewfinder turns off and the "VTR" Indication Lamp ① flashes.

■ To Resume Shooting

When you return the Movie Camera to an approximately horizontal position, the Movie Camera is again in the Shooting Pause Mode and you can restart shooting by pressing the Start/Stop Button.

Notes:
- When the Auto Power Save Function becomes activated, the Auto Focus and the Zoom Motor do not work.
- When you restart shooting after this function became activated, the Auto White Balance Adjustment may not be precise for the first few seconds.



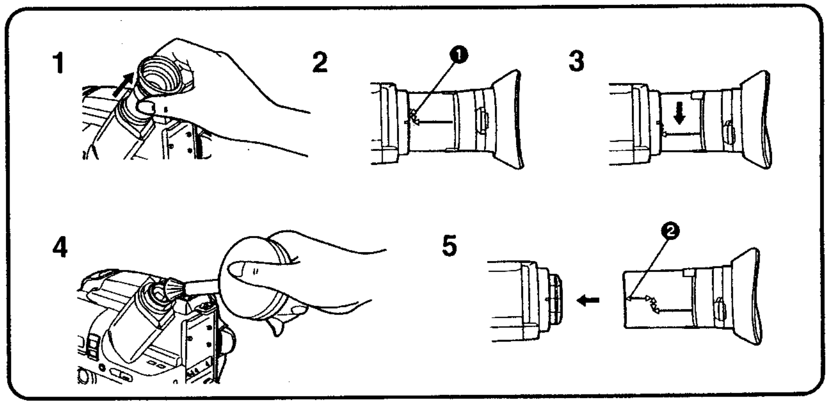
❷ Anti-Ground-Shooting Function
(in the Shooting Mode)
- The Battery Pack can be used longer for shooting.
- The Movie Camera automatically switches over to the Shooting Pause Mode to stop the unintentional shooting when you forget to press the Start/Stop Button at the end of a scene.

When you tilt the Movie Camera downwards by more than about 70° from the normal horizontal shooting position for more than a few seconds, and:
1) walk with the Movie Camera held in the hand or;
2) tilt the Movie Camera quickly downwards when not walking;
the Viewfinder turns off and the "VTR" Indication Lamp flashes.

■ To Resume Shooting

When you return the Movie Camera to an approximately horizontal position, the "CHK" (=check) Indication flashes in the Viewfinder. This indicates that the tape has automatically been rewound for approx. 1.5 seconds of recorded content. To ensure continuity of the VITC signal recording, be sure to briefly press the [◀◀] Button, before starting to shoot again.

Notes:
- The Anti-Ground-Shooting Function is designed so that it does not become activated when you tilt the Movie Camera slowly downwards during shooting, as shown above ①.
- This function is not intended to replace the manual stopping of shooting.
- When this function becomes activated, the Auto Focus and the Zoom Motor do not work.
- When you restart shooting after this function became activated, the Auto White Balance Adjustment may not be precise for the first few seconds.



How to Clean the Movie Camera

1 How to Clean the Viewfinder

If dust has entered the Viewfinder, clean it in the following way:

1 **Extend the Viewfinder.**

2 **Push the Viewfinder back in about 3 mm to the arrow ❶.**

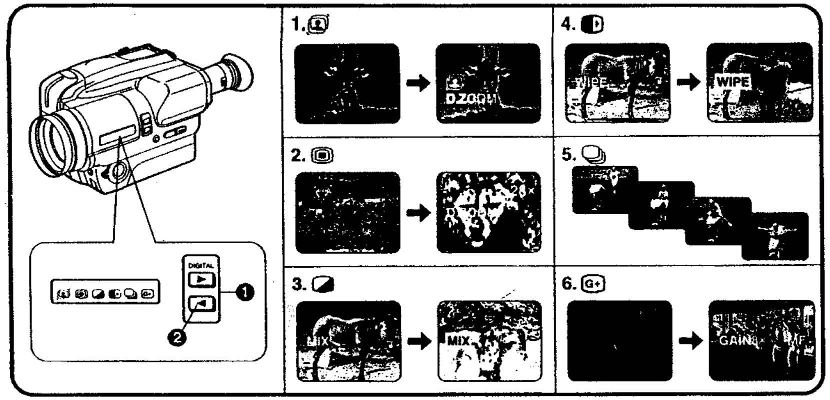
3 **Turn the Viewfinder counterclockwise until it stops, and then pull it off.**

4 **Remove dust with a blower brush.**

5 **To re-attach the Viewfinder, align it as shown in the illustration, slip it on as far as the arrow ❷ and then turn it clockwise.**

2 How to Clean the Movie Camera Body and Lens

Notes:
1. Do not use benzine, thinner or other chemicals for cleaning, because they could change the colour and damage the surface of the camera body.
2. When using a chemically treated cloth for cleaning, carefully follow the instructions for its use.
   - Wipe the Movie Camera with a clean, dry cloth. Never use cleaning fluid or other chemicals.
   - Clean the lens only with a blower brush (used for photo cameras) or special lens cleaning tissue (used for glasses and cameras).



How to Use the Digital Function

By repeatedly pressing either of the two [DIGITAL] Buttons ❶, the following digital functions can be activated:

1. **Super Image Stabilizer Function**
2. **Digital Zoom Function**
   This function is especially practical for shooting a subject in the far distance.
3. **Digital Mix Function**
4. **Digital Wipe Function**
5. **Digital Strobe Function**
   This function continuously records approx. 4 still images per second.
6. **Digital Gain-up Function**
   This function is useful when shooting from the outside into a house, etc.

■ To Cancel the Digital Function

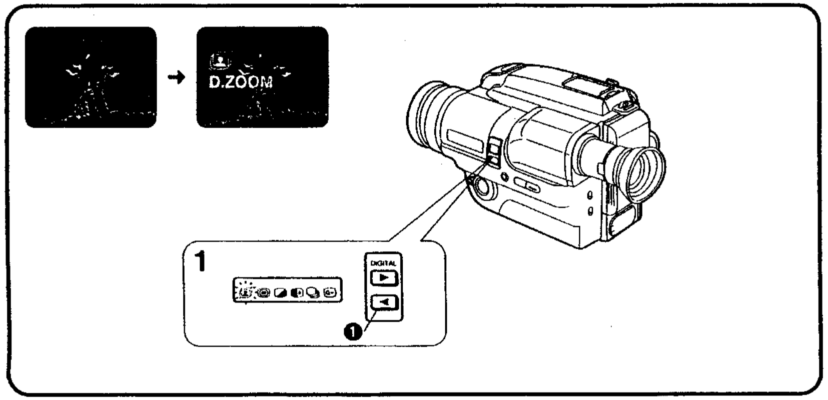
Press the lower [DIGITAL] Button ❷ repeatedly until none of the 6 indications is lit any more.

Notes for the Digital Zoom Function

1. When the "D.ZOOM" Indication is displayed in the Viewfinder, the subject can be enlarged up to 28 times.
2. The zooming speed changes according to the position of the [W • T] Zoom Lever (the farther it is pushed toward either the "W" or "T" position the faster the zooming speed becomes).

Notes for the Digital Gain-up Function

1. When using this function, some after-image distortion may occur.
2. The focus must be adjusted manually since the Movie Camera is automatically put into the Manual Focus Mode.
3. The Sports Mode or the Portrait Mode will be cancelled automatically.



How to Use the Super Image Stabilizer Function

This function is especially practical for the following shooting situations:

1. Zooming in on a distant subject.
2. Shooting while walking.
3. Shooting from inside a moving car.

1 Press either of the [DIGITAL] Buttons repeatedly until the “ ” Indications is lit.
- The Super Image Stabilizer Indication “ ” and the "D.ZOOM" Indication appear in the Viewfinder.

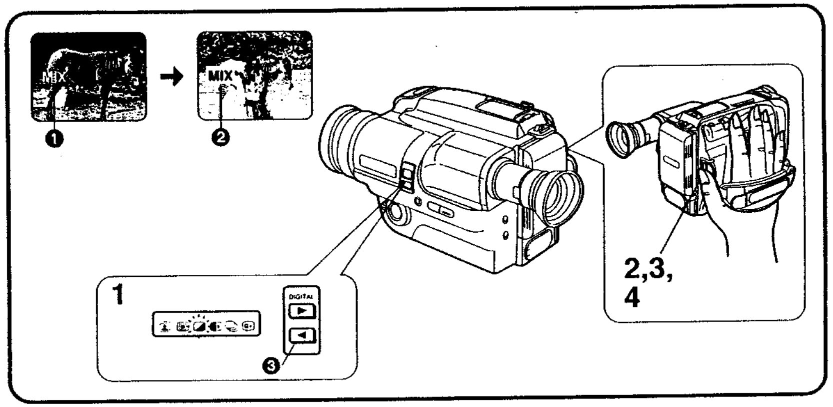
In the Following Shooting Conditions, the Picture Stabilizing Effect May Not Be Sufficient:
- A subject with horizontal or vertical stripes
- A flat subject
- A dark subject
  (In this case, the Super Image Stabilizer Indication “ ” flashes in the Viewfinder. Increase the amount of light.)
- A subject under many fluorescent lamps
- A fast-moving subject
- A subject with a flat background

■ To Cancel the Super Image Stabilizer Function

Press the lower [DIGITAL] Button ❶ repeatedly until none of the 6 indications is lit any more.

Notes:

1. When you use the Super Image Stabilizer Function, the shutter speed is automatically adjusted to 1/125 s.
2. Cancelling the Super Image Stabilizer Function also resets the shutter speed to 1/50 s. However, after selecting the Sports Mode or the Portrait Mode, cancelling the Super Image Stabilizer Function does not reset the shutter speed to 1/50 s.



How to Fade Over from the Last Recorded Scene to the Next (Digital Mix)

This function makes it possible to achieve a smooth transition from the last recorded scene to the next scene. When starting to shoot the new scene, a still picture of the last recorded scene appears, and it is then gradually replaced by the moving picture of the new scene.

Notes:

1. Since the still picture is recorded from the digital image memory, the picture quality becomes slightly inferior to that of normally recorded pictures.
2. Performing Recording Review or pressing the [VTR/CAMERA] Button does not erase the picture in the digital image memory.

1 Press either of the [DIGITAL] Buttons repeatedly until the “ ” Indication is lit.
- The "MIX" Indication ❶ appears in the Viewfinder.

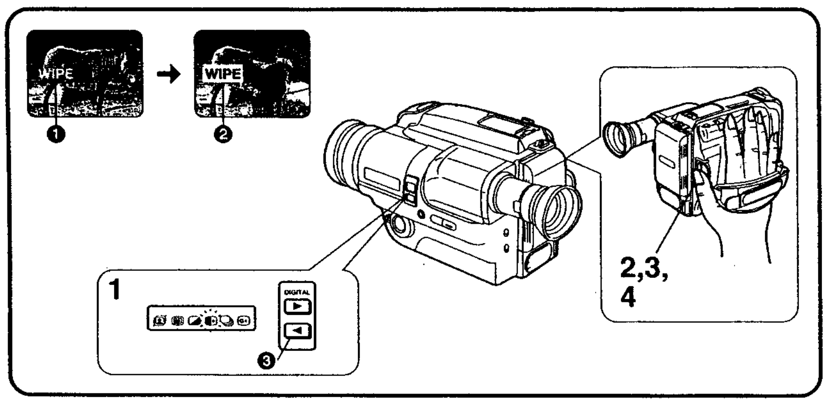
2 Press the Start/Stop Button.
- The shooting starts.

3 Press the Start/Stop Button.
- The shooting stops (Shooting Pause Mode).
- The Indication ❶ changes to ❷.
- The last picture of the just recorded scene is kept in the digital image memory.

4 Press the Start/Stop Button.
- The picture (from the memory) appears as still picture. It is then gradually faded over to the moving picture of the new scene.

■ To Cancel the Digital Mix Function

Press the lower [DIGITAL] Button ❸ repeatedly until none of the 6 indications is lit any more.



How to Fade Over from the Last Recorded Scene to the Next (Digital Wipe)

This function makes it possible to achieve a smooth transition from the last recorded scene to the next scene. When starting to shoot the new scene, a still picture of the last scene appears, and it then changes over to the moving picture of the new scene with Digital Wipe.

Notes:
1. Since the still picture is recorded from the digital image memory, the picture quality becomes slightly inferior to that of normally recorded pictures.
2. Performing Recording Review or pressing the [VTR/CAMERA] Button does not erase the picture in the digital image memory.

1 Press either of the [DIGITAL] Buttons repeatedly until the "◧" Indication is lit.
- The "WIPE" Indication ❶ appears in the Viewfinder.

2 Press the Start/Stop Button.
- The shooting starts.

3 Press the Start/Stop Button.
- The shooting stops (Shooting Pause Mode).
- The Indication ❶ changes to ❷.
- The last picture of the just recorded scene is kept in the digital image memory.

4 Press the Start/Stop Button.
- The picture (from the memory) appears as still picture. It is then gradually replaced from right to left by the moving picture of the new scene.

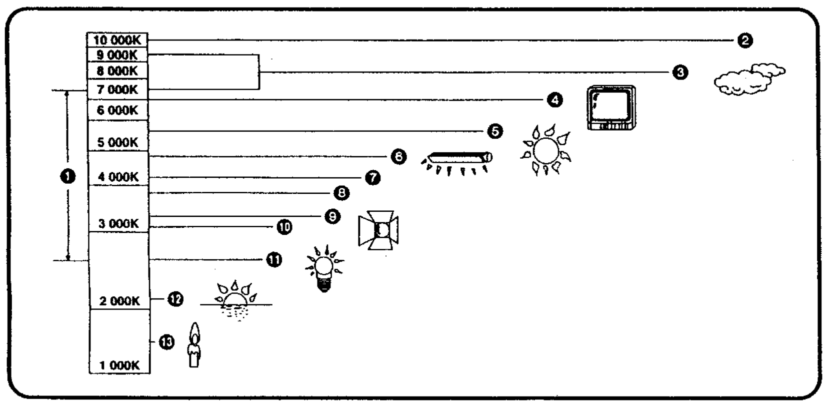
■ To Cancel the Digital Wipe Function

Press the lower [DIGITAL] Button ❸ repeatedly until none of the 6 indications is lit any more.

Colour Temperature and White Balance

The colour temperature of the light source is measured in Kelvin (K). The higher the Kelvin value is, the more bluish is the light; the lower the value, the more reddish is the light. This is not directly related to the brightness. The table shows the relationship between natural light, artificial light and colour temperature.

❶ Control range of the Auto White Balance Function
❷ Blue sky
❸ Cloudy sky (rain)
❹ TV screen
❺ Sunlight
❻ White fluorescent lamp
❼ 2 hours after sunrise or before sunset
❽ 1 hour after sunrise or before sunset
❾ Halogen light bulb
❿ 30 minutes after sunrise or before sunset
⓫ Incandescent light bulb
⓬ Sunrise or sunset
⓭ Candlelight



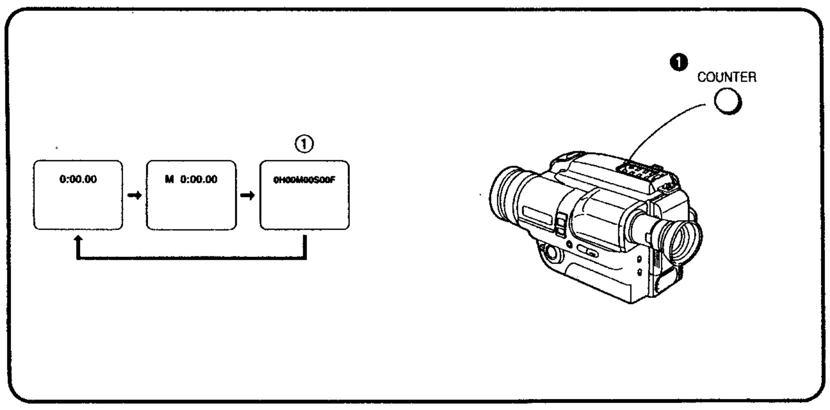
How to Use the VITC Function

As an address (individual number) is recorded for each frame, it is possible to find the accurate position of any desired scene or picture on a tape by checking the address during playback. This address is called "Time Code".
Since the VITC signals (Vertical Interval Time Code) are recorded together with the picture signals (however, in a part that is not visible on the TV screen), they will not be cancelled even when the video cassette is taken out from the Movie Camera or the Movie Camera is switched off. This makes it possible to check the precise position of any desired picture at any time.

Notes:
1. The number indicated in the Viewfinder (Linear Counter or VITC Counter) is output through the [NEW EDIT] Socket.
2. Do not switch between the "Linear Counter" and the "VITC" counter during editing with an Editing Controller.
3. As the VITC Counter Indication displayed during FF or REW is only a rough approximation of the actual VITC value, it cannot be used for checking the precise VITC value. (When performing FF or REW without having performed any playback, the VITC Counter Indication remains at zero.)
4. When editing with Editing Controller VW-EC10, set the User Code to the "off" mode as explained in paragraph '3.6.2 Editing with "foreign" timecode' of its Operation Manual.
"User Codes" are additional information, e.g. date/time.
5. To provide a blank leader portion (unrecorded tape) at the beginning of each video cassette, shoot for at least 20 seconds with the Lens Cap attached to the Lens.
6. Each time you start shooting, small jumps may appear in the time code. Therefore, get into the habit of always starting the shooting approx. 5 seconds before the action you wish to record actually starts.

■ Note only for Performing VITC Editing with an Editing Controller

During VITC editing with certain editing controllers, an error message may appear and prevent further editing. In this case, move the editing point forwards or backwards approx. 1 second and try to start editing again.



[1] Recording of VITC Signals

Note:
To ensure that the VITC signals are recorded on a tape without interruption when starting to shoot after taking out the video cassette from the Movie Camera, after performing FF or REW, or after starting to shoot midway on a video cassette, be sure to play back the last part of the previous recording.

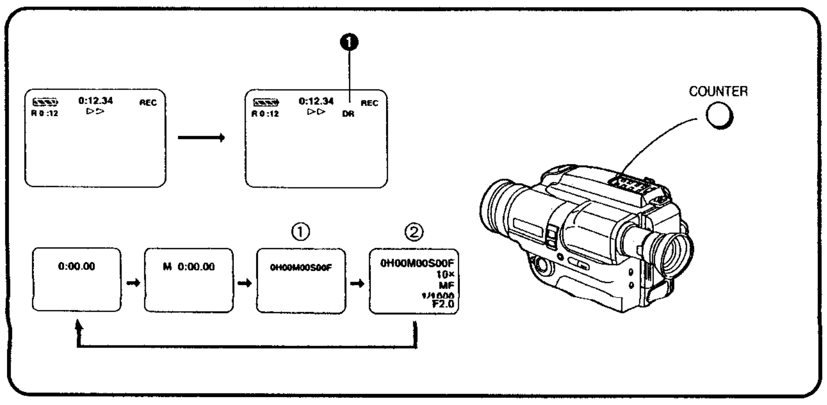
During shooting, the VITC signals are recorded automatically.
- When shooting is started from an unrecorded part of a video tape, the VITC value begins from 0H00M00S00F (Hours, Minutes, Seconds, Frames).
(1 Frame=1/25 s)
- When shooting is started from the end of the previously recorded part of a video tape, the VITC value continues from the previously recorded VITC value.

To check the VITC value, press the [COUNTER] Button ❶ to make the VITC Counter Indication ① appear in the Viewfinder.

[2] Playback of VITC Signals

■ Camera Information

The camera information (zoom magnification, manual focus, shutter speed, iris setting, etc.) is automatically recorded together with the VITC signals. This information can be checked in the Viewfinder during playback.
The date and time are also automatically recorded as part of the camera information.
They can be checked in the Viewfinder during playback by pressing the [DATE/TIME] Button.

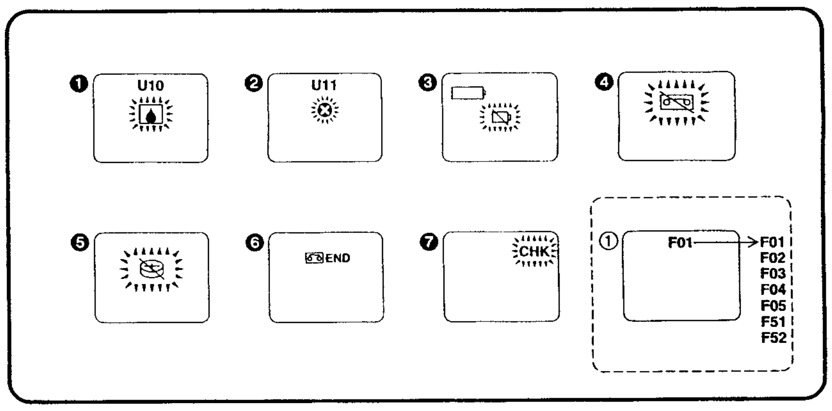


■ When "DR-ON" is selected for the item "VITC"

Checking the VITC value ① and the camera information ② is possible by repeatedly pressing the [COUNTER] Button during playback in the VTR mode.
- The "DR" Indication ❶ is displayed in the Viewfinder.
- The camera information (including the date/time) will be recorded together with the VITC.

■ When "DR-OFF" is selected for the item "VITC"
- The camera information (including the date/time) will not be recorded, therefore, it cannot be displayed during playback.
- Even if the [DATE/TIME] Button is pressed during playback, only bars ("--.--") will be displayed.

Note:
When playing back a tape that was recorded without VITC signal, or when the VITC signal drops out during the playback, the VITC Counter in the Viewfinder will show "--H--M--S--F".



Indications in the Viewfinder

■ Warning/Alarm Indications

❶ Condensation

❷ Video Head Clogging

❸ Remaining Battery Power
When the last segment of this indication has disappeared, the "CAMERA" Indication Lamp flashes for a few seconds, and then the Movie Camera automatically switches off. Replace the Battery Pack with a fully charged one.

❹ Tape
When no video cassette is inserted, or when the tab of the inserted video cassette is broken out, this indication flashes. Insert a video cassette with intact tab.

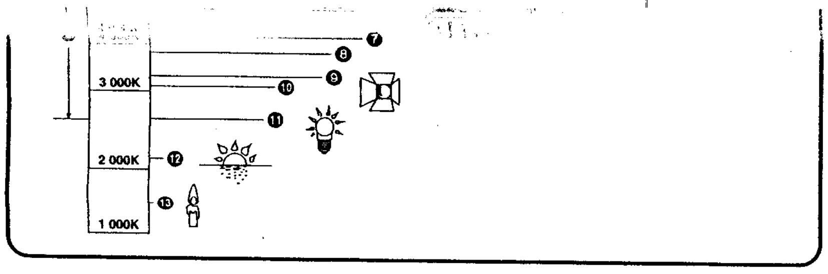
❺ Built-in Lithium Battery
The built-in Lithium Battery is exhausted; charge it.

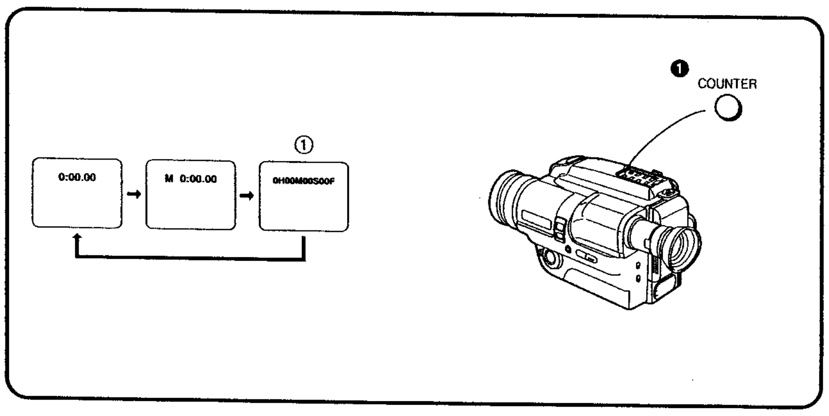
❻ End of the Tape
When the tape has reached its end, this indication lights. Insert a new Video Cassette.

❼ Anti-Ground-Shooting

① Error Code
(Error codes are information for service personnel.)
If the "F" Indication appears in the Viewfinder, some malfunction has occurred. If the indicated error code is between "F01" and "F05", the Movie Camera will turn itself off automatically one minute after the "CAMERA" Lamp has started to flash. (If the indication is "F51" or "F52", the Movie Camera will not turn off automatically.)
If one of the Error Codes is displayed, write it down and tell it to the service personnel.

F01:	Locked Take Up-Reel
F02:	Locked Supply-Reel
F03:	Locked Unloading Mechanism
F04:	Locked Loading Mechanism
F05:	Locked Cylinder
F51:	Locked Focus Motor
F52:	Locked Zoom Motor


3 000K
2 000K
1 000K
❼
❽
❾
❿
⓫
⓬
⓭


❶
COUNTER
①
0:00.00
M 0:00.00
0H00M00S00F

[1] Recording of VITC Signals

Note:
To ensure that the VITC signals are recorded on a tape without interruption when starting to shoot after taking out the video cassette from the Movie Camera, after performing FF or REW, or after starting to shoot midway on a video cassette, be sure to play back the last part of the previous recording.

During shooting, the VITC signals are recorded automatically.

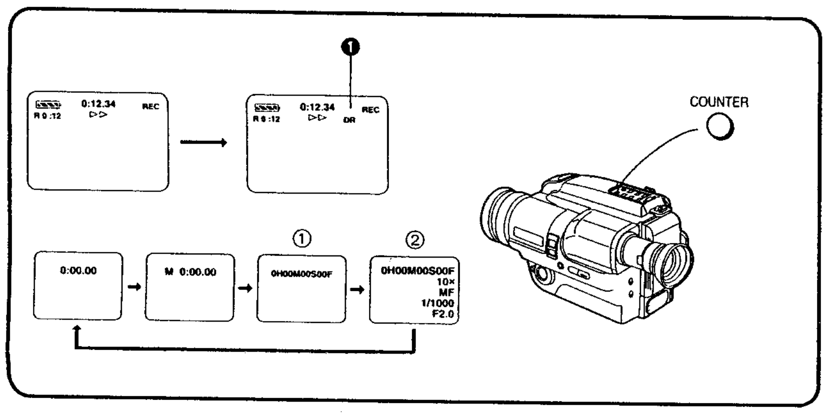
- When shooting is started from an unrecorded part of a video tape, the VITC value begins from 0H00M00S00F (Hours, Minutes, Seconds, Frames). (1 Frame=1/25 s)
- When shooting is started from the end of the previously recorded part of a video tape, the VITC value continues from the previously recorded VITC value.

To check the VITC value, press the [COUNTER] Button ❶ to make the VITC Counter Indication ① appear in the Viewfinder.

[2] Playback of VITC Signals

■ Camera Information

The camera information (zoom magnification, manual focus, shutter speed, iris setting, etc.) is automatically recorded together with the VITC signals. This information can be checked in the Viewfinder during playback.
The date and time are also automatically recorded as part of the camera information.
They can be checked in the Viewfinder during playback by pressing the [DATE/TIME] Button.


❶
0:12.34 REC
R 0:12
0:12.34 REC
R 0:12
DR
COUNTER
①
②
0:00.00
M 0:00.00
0H00M00S00F
0H00M00S00F
10×
MF
1/1000
F2.0

1. The number indicated in the Viewfinder (Linear Counter or VITC Counter) is output through the [NEW EDIT] Socket.
2. Do not switch between the "Linear Counter" and the "VITC" counter during editing with an Editing Controller.
3. As the VITC Counter Indication displayed during FF or REW is only a rough approximation of the actual VITC value, it cannot be used for checking the precise VITC value. (When performing FF or REW without having performed any playback, the VITC Counter Indication remains at zero.)

■ Note only for Performing VITC Editing with an Editing Controller

During VITC editing with certain editing controllers, an error message may appear and prevent further editing. In this case, move the editing point forwards or backwards approx. 1 second and try to start editing again.

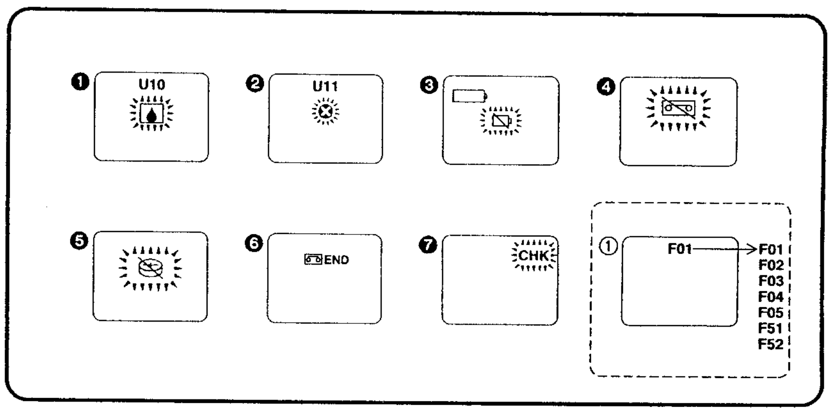
■ When "DR-ON" is selected for the item "VITC"

Checking the VITC value ① and the camera information ② is possible by repeatedly pressing the [COUNTER] Button during playback in the VTR mode.
- The "DR" Indication ❶ is displayed in the Viewfinder.
- The camera information (including the date/time) will be recorded together with the VITC.

■ When "DR-OFF" is selected for the item "VITC"

- The camera information (including the date/time) will not be recorded, therefore, it cannot be displayed during playback.
- Even if the [DATE/TIME] Button is pressed during playback, only bars ("–.–.–") will be displayed.

Note:
When playing back a tape that was recorded without VITC signal, or when the VITC signal drops out during the playback, the VITC Counter in the Viewfinder will show "--H--M--S--F".


❶
U10
❷
U11
❸
❹
❺
❻
END
❼
CHK
①
F01
F01
F02
F03
F04
F05
F51
F52

Indications in the Viewfinder

■ Warning/Alarm Indications

❶ Condensation

❷ Video Head Clogging

❸ Remaining Battery Power
When the last segment of this indication has disappeared, the "CAMERA" Indication Lamp flashes for a few seconds, and then the Movie Camera automatically switches off. Replace the Battery Pack with a fully charged one.

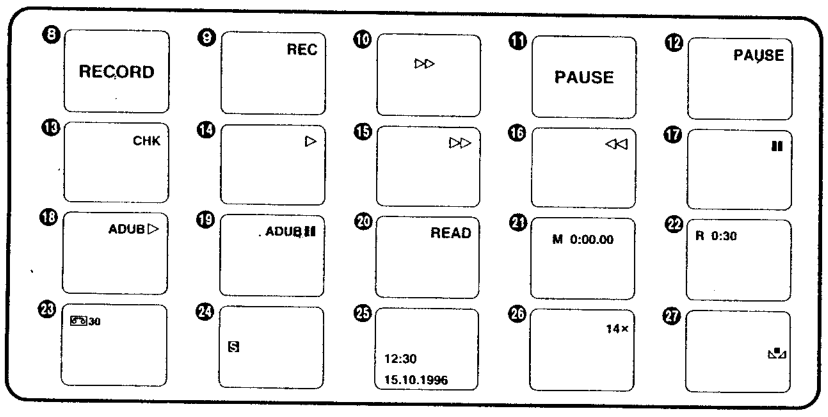
❹ Tape
When no video cassette is inserted, or when the tab of the inserted video cassette is broken out, this indication flashes. Insert a video cassette with intact tab.

❺ Built-In Lithium Battery
The built-in Lithium Battery is exhausted; charge it.

❻ End of the Tape
When the tape has reached its end, this indication lights. Insert a new Video Cassette.

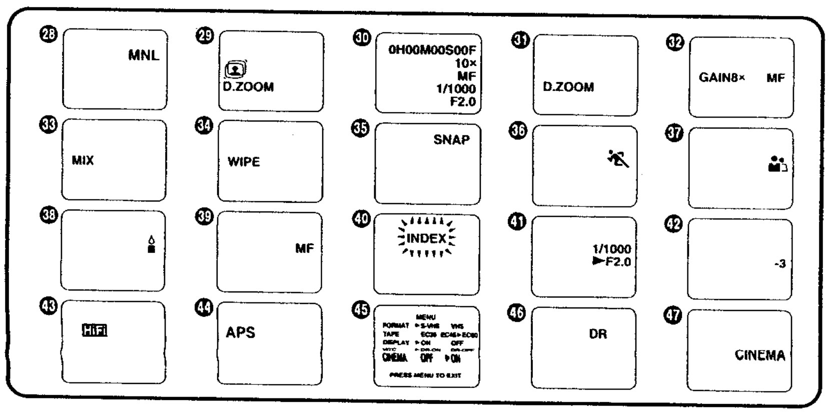
❼ Anti-Ground-Shooting

① Error Code
(Error codes are information for service personnel.)
If the "F" Indication appears in the Viewfinder, some malfunction has occurred. If the indicated error code is between "F01" and "F05", the Movie Camera will turn itself off automatically one minute after the "CAMERA" Lamp has started to flash. (If the indication is "F51" or "F52", the Movie Camera will not turn off automatically.)
If one of the Error Codes is displayed, write it down and tell it to the service personnel.
F01: Locked Take Up-Reel
F02: Locked Supply-Reel
F03: Locked Unloading Mechanism
F04: Locked Loading Mechanism
F05: Locked Cylinder
F51: Locked Focus Motor
F52: Locked Zoom Motor

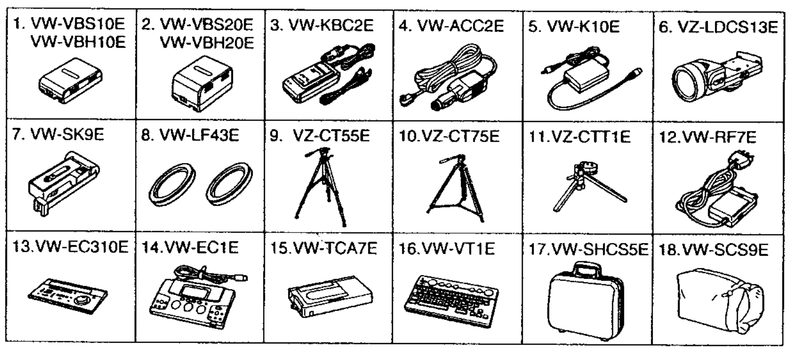

❽
RECORD
❾
REC
❿
▷▷
⓫
PAUSE
⓬
PAUSE
⓭
CHK
⓮
▷
⓯
▷▷
⓰
◁◁
⓱
II
⓲
ADUB▷
⓳
ADUB II
⓴
READ
㉑
M 0:00.00
㉒
R 0:30
㉓
30
㉔
S
㉕
12:30
15.10.1996
㉖
14×
㉗

■ Shooting and Playback Indications

❽ Shooting Mode (large indication)
❾ Shooting Mode (small indication)
❿ Tape Run Mode
⓫ Shooting Pause Mode (large indication)
⓬ Shooting Pause Mode (small indication)
⓭ Recording Review Mode
⓮ Playback/Camera Search Mode
⓯ Fast Forward/Cue Mode
⓰ Rewind/Review/Camera Search Mode
⓱ Still Playback Mode
⓲ Audio Dubbing Mode
⓳ Audio Dubbing Pause Mode
⓴ READ Indication
㉑ Tape Counter with activated Memory Function
㉒ Remaining Tape Time
㉓ Tape Length
㉔ S-VHS Format
㉕ Date and Time
㉖ Zoom Magnification
㉗ Manual White Balance Mode


㉘
MNL
㉙
D.ZOOM
㉚
0H00M00S00F
10×
MF
1/1000
F2.0
㉛
D.ZOOM
㉜
GAIN8× MF
㉝
MIX
㉞
WIPE
㉟
SNAP
㊱
㊲
㊳
㊴
MF
㊵
INDEX
㊶
1/1000
►F2.0
㊷
-3
㊸
HiFi
㊹
APS
㊺
MENU
FORMAT ►S-VHS VHS
TAPE EC30 EC45►EC60
DISPLAY ►ON OFF
VITC ►DR-ON DR-OFF
CINEMA OFF ►ON
PRESS MENU TO EXIT
㊻
DR
㊼
CINEMA

㉘ Manual Shooting Mode
㉙ Digital Image Stabilizer Mode
㉚ VITC value and Camera Information
㉛ Digital Zoom Mode
㉜ High Sensitivity Mode
㉝ Digital Mix Mode
㉞ Digital Wipe Mode
㉟ Snapshot Mode
㊱ Sports Mode
㊲ Portrait Mode
㊳ Low Light Mode
㊴ Manual Focus Mode
㊵ Index
㊶ Shutter Speed/Iris Value
㊷ AE Compensation Value
㊸ Hi-Fi Mode
㊹ Power Save Mode
㊺ Menu Mode
㊻ VITC Recording with "Data Recording" (Camera Information)
㊼ Cinema Mode


1. VW-VBS10E
VW-VBH10E
2. VW-VBS20E
VW-VBH20E
3. VW-KBC2E
4. VW-ACC2E
5. VW-K10E
6. VZ-LDCS13E
7. VW-SK9E
8. VW-LF43E
9. VZ-CT55E
10.VZ-CT75E
11.VZ-CTT1E
12.VW-RF7E
13.VW-EC310E
14.VW-EC1E
15.VW-TCA7E
16.VW-VT1E
17.VW-SHCS5E
18.VW-SCS9E

Optional Accessories

1. VW-VBS10E (Ni-Cd Battery Pack)
   VW-VBH10E (Ni-MH Battery Pack)
2. VW-VBS20E (Ni-Cd Battery Pack)
   VW-VBH20E (Ni-MH Battery Pack)
3. Car Battery Charger
4. Car Battery Cord
5. 5-pin Synchro Cord
6. Video DC Light
7. Shoe Adaptor
8. Filter Kit
9. Standard Tripod
10. Deluxe Tripod
11. Table Tripod
12. RF Adaptor
13. Editing Controller
14. Editing Controller
15. Cassette Adaptor
16. Video Titler
17. System Case
18. Soft Cover

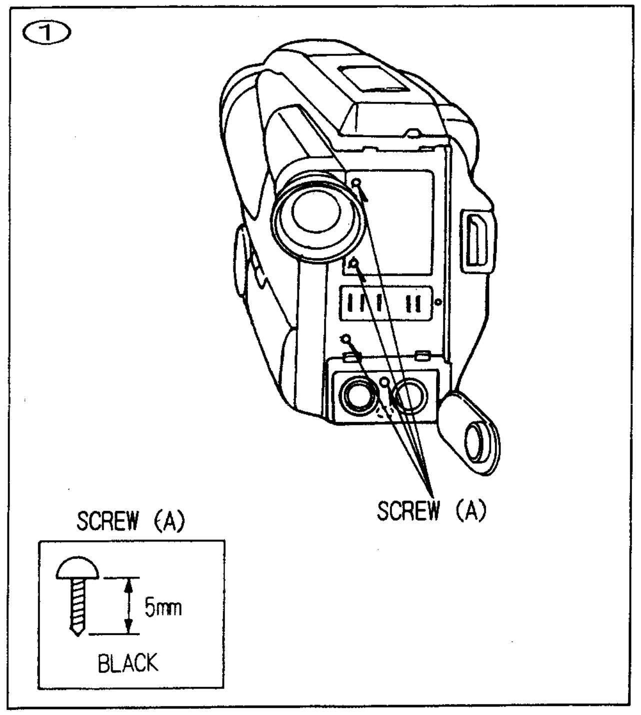
Notes:
- Some accessories are not available in some countries.
- To mount the Video DC Light on the Movie Camera, the Shoe Adaptor (optional) is necessary.
- When you shoot at the maximum wide-angle setting and use the Super Image Stabilizer Function while an ND Filter is attached to the Lens, the four corners of the picture may become black.

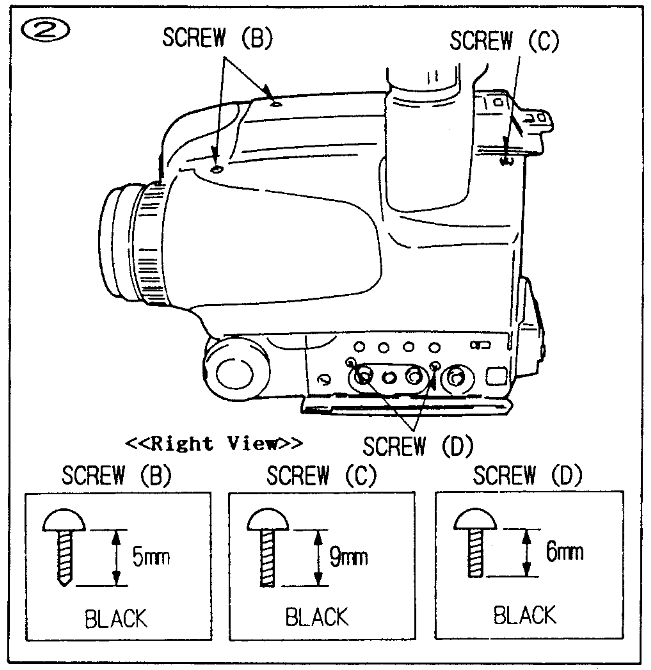
SECTION 2
ADJUSTMENT PROCEDURES

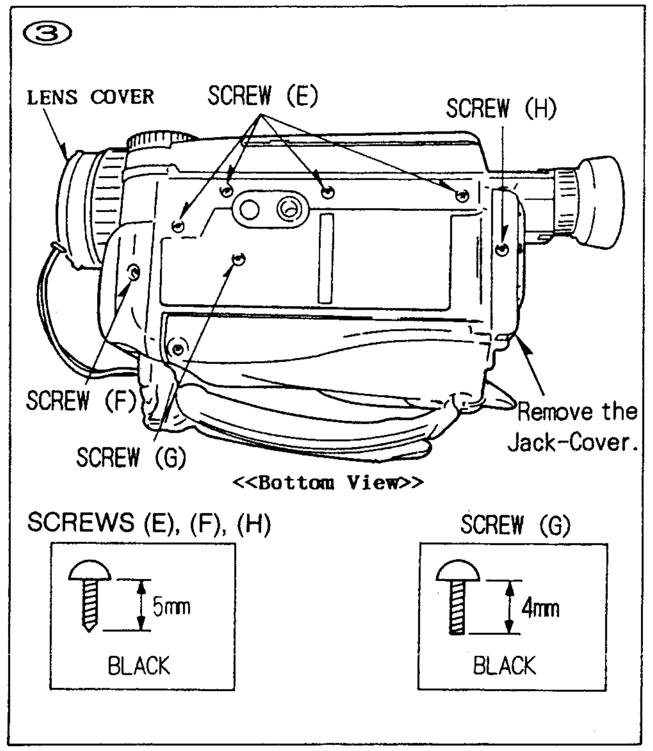
2-1. DISASSEMBLY PROCEDURES

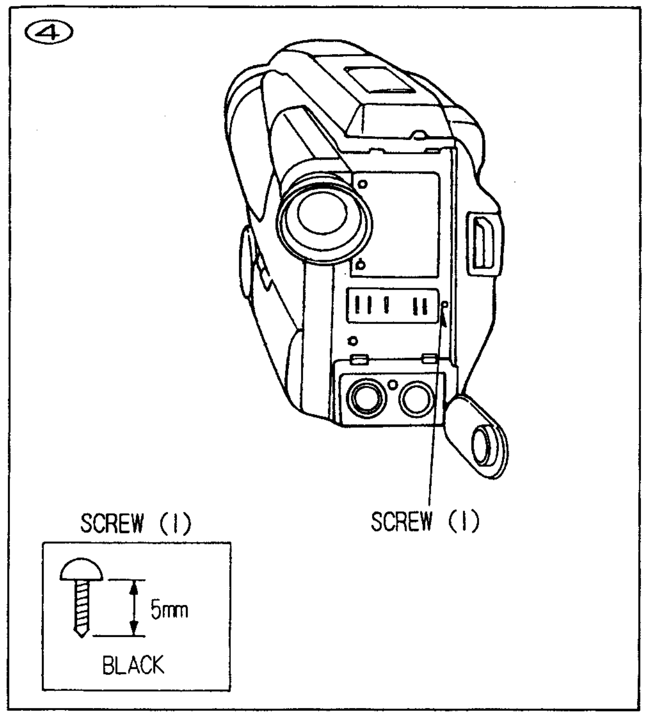
Flow-Chart for Disassembly Procedure

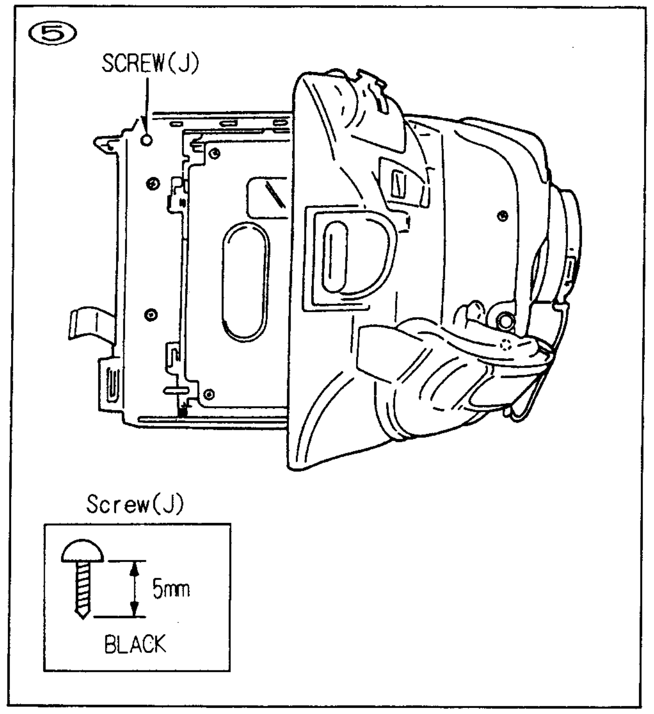
NBR	ITEM/PART	Fig.	Removal (SCREW)
【1】	Side Case (L).	①	4-SCREW (AX4)
		②	5-SCREW(B/C/D)
		③	7-SCREW(E/F/G/H) Remove the Jack-Cover.
		④	1-SCREW (I)
		⑤	1-SCREW (J)
		⑥	Slightly open the side case (L). Disconnect(Connector A/B).
【2】	Front & Side Case (R).	⑦	4-SCREW(K/L)
		⑧	Disconnect(Connector C/D) Unlock---2 Locking Tabs Slide the Front Case.
		⑨	Disconnect(Connector E) Slide the Side case
【3】	Camera unit	⑩	Disconnect(Connector F) 2-SCREW (M) Slide the Camera Unit little bit and unlock locking boss and then lift up the camera unit.
【4】	Main C.B.A	⑪	5-SCREW(N/O/P/Q/R) Disconnect(Connector G/H)
		⑫	Disconnect(Connector I/J/K/L/M/N O/P)
【5】	POWER C.B.A	⑬	2-SCREW (S)
【6】	Camera C.B.A	⑭	Disconnect(Connector R)
		⑮	Disconnect(Connector S) 2 SCREW(T)

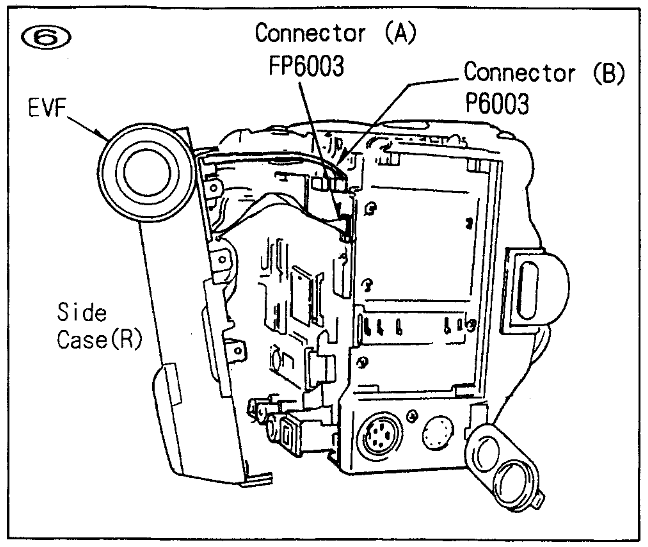

①
SCREW (A)
SCREW (A)
5mm
BLACK

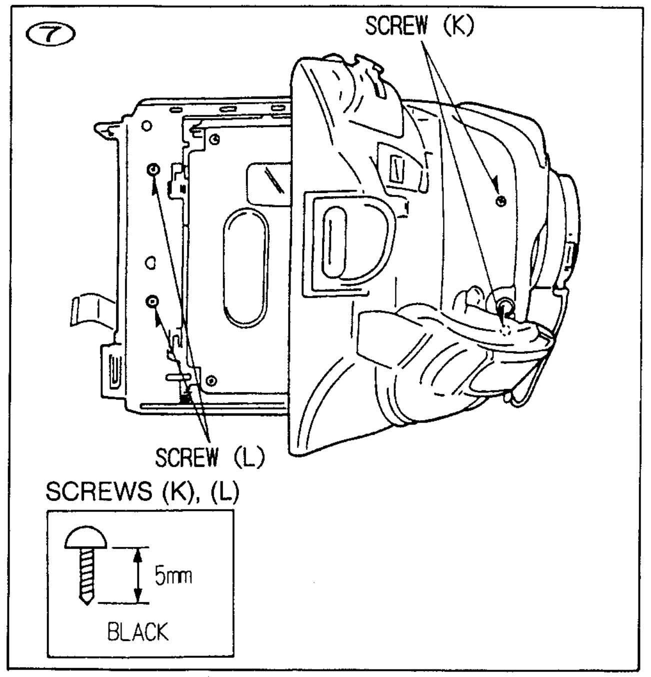

②
SCREW (B)
SCREW (C)
<<Right View>>
SCREW (D)
SCREW (B)
5mm
BLACK
SCREW (C)
9mm
BLACK
SCREW (D)
6mm
BLACK

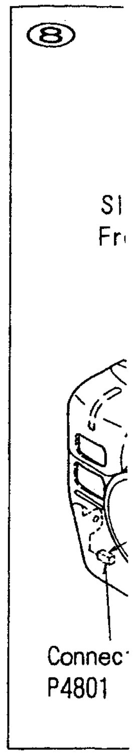

③
LENS COVER
SCREW (E)
SCREW (H)
SCREW (F)
SCREW (G)
Remove the Jack-Cover.
<<Bottom View>>
SCREWS (E), (F), (H)
5mm
BLACK
SCREW (G)
4mm
BLACK

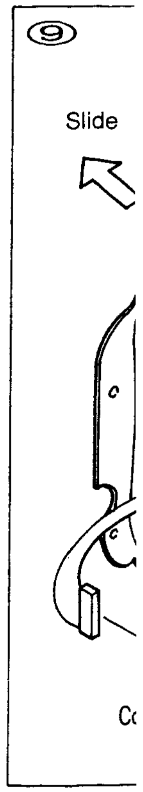

④
SCREW (I)
SCREW (I)
5mm
BLACK

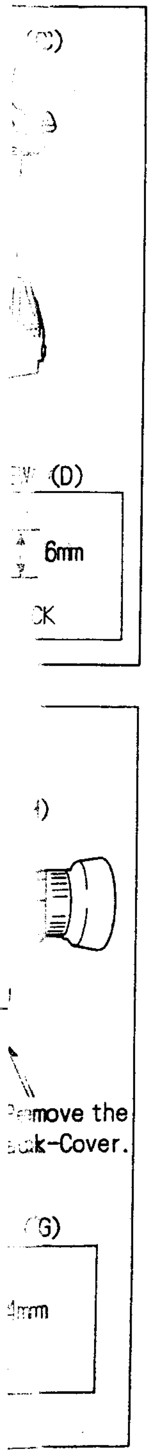

⑤
SCREW(J)
Screw(J)
5mm
BLACK


⑥
Connector (A)
FP6003
Connector (B)
P6003
EVF
Side
Case(R)

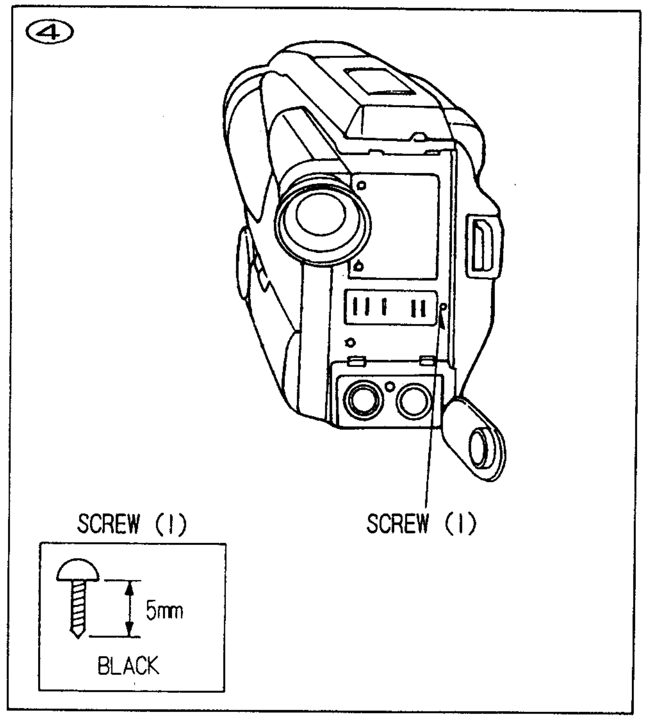

⑦
SCREW (K)
SCREW (L)
SCREWS (K), (L)
5mm
BLACK


⑧
Sl
Fr
Connec
P4801

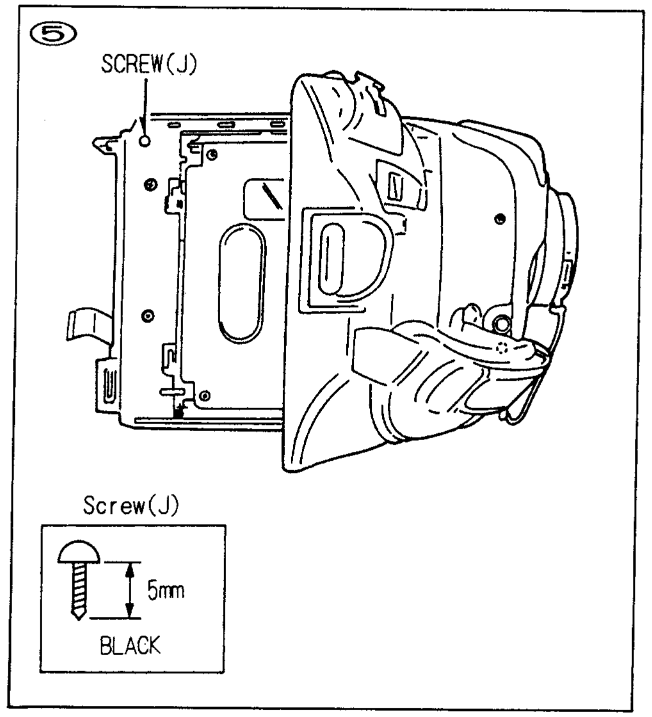



(D)
6mm
move the
ck-Cover.
(G)

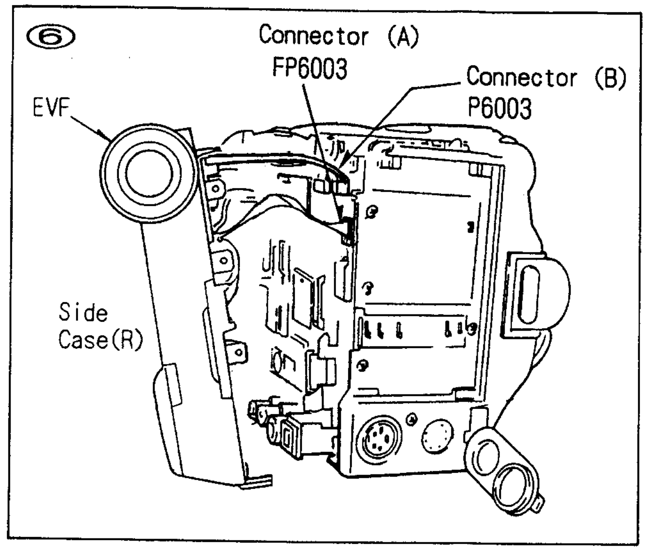
④


SCREW (I)
SCREW (I)
5mm
BLACK

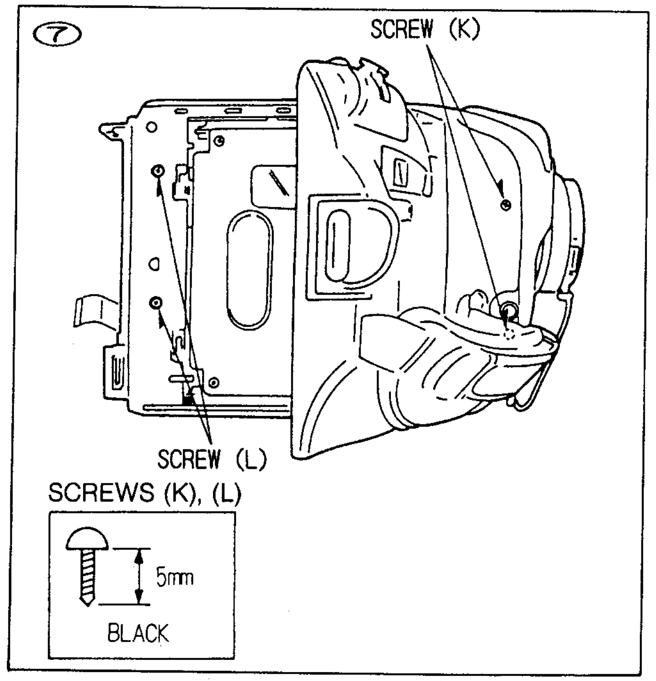
⑤


SCREW(J)
Screw(J)
5mm
BLACK

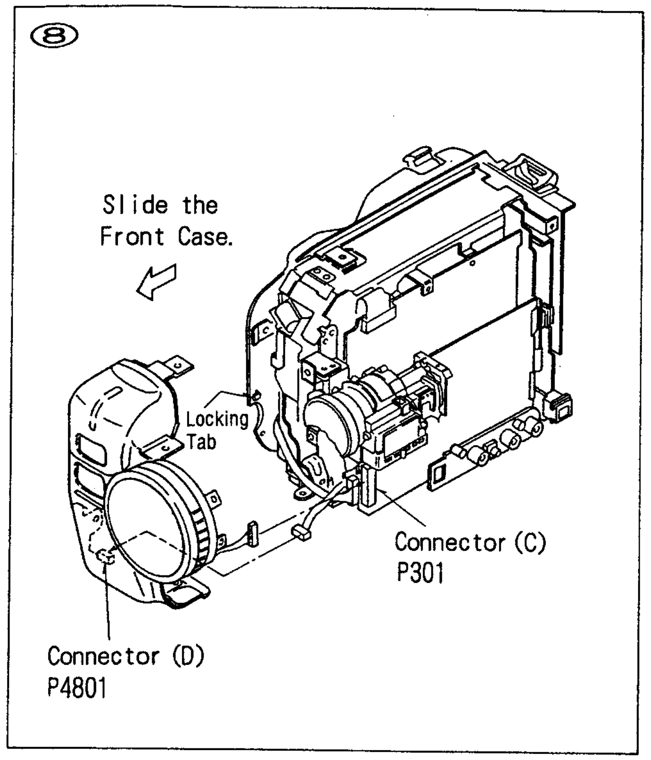
⑥


Connector (A)
FP6003
Connector (B)
P6003
EVF
Side
Case(R)

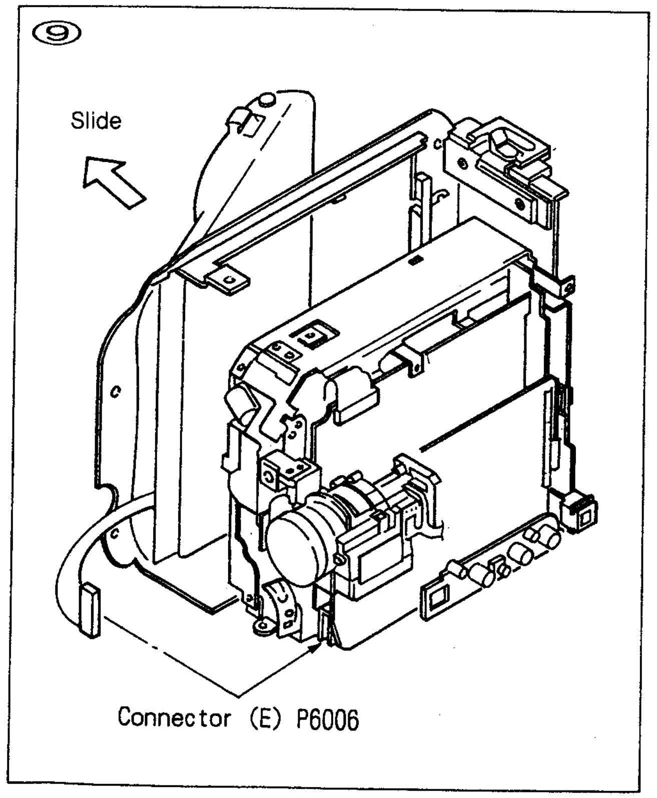
⑦


SCREW (K)
SCREW (L)
SCREWS (K), (L)
5mm
BLACK

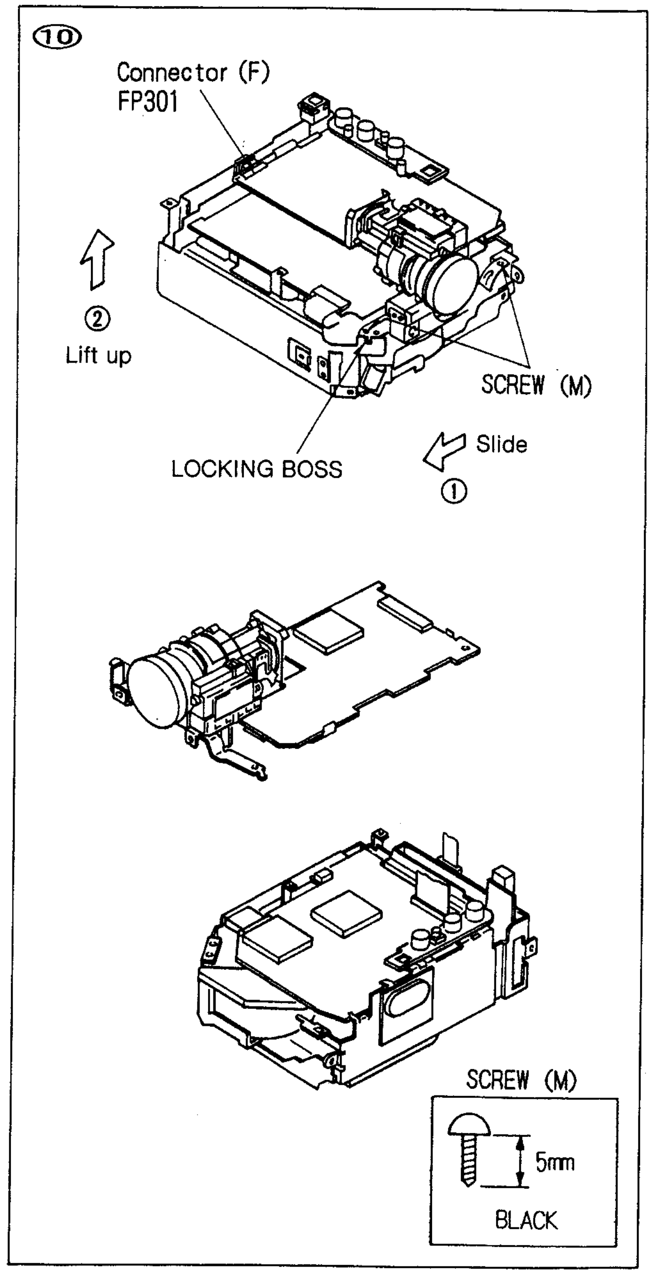
⑧


Slide the
Front Case.
Locking
Tab
Connector (C)
P301
Connector (D)
P4801

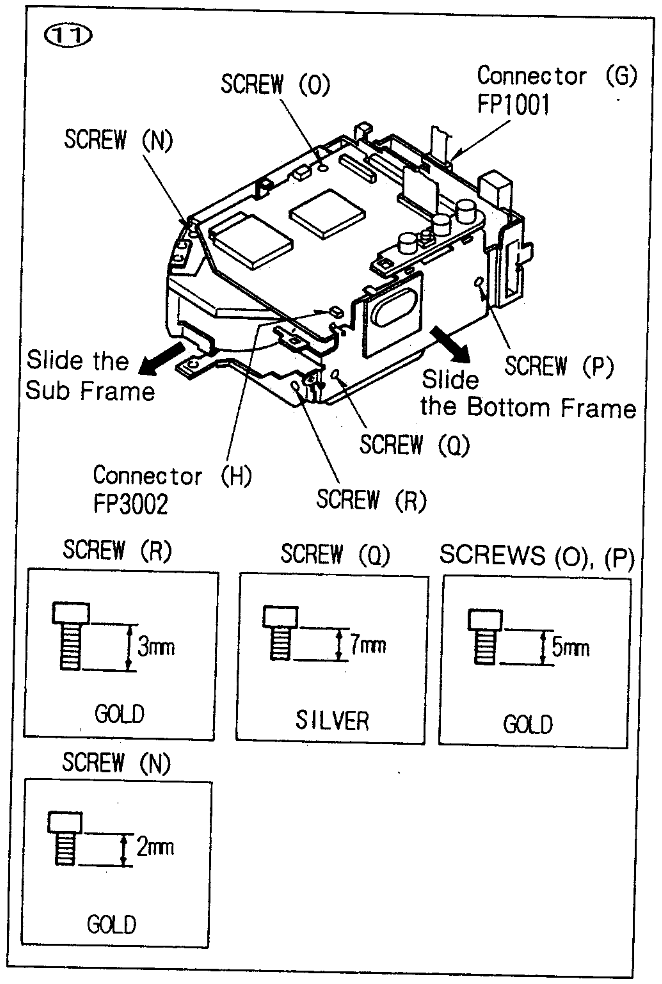
⑨


Slide
Connector (E) P6006

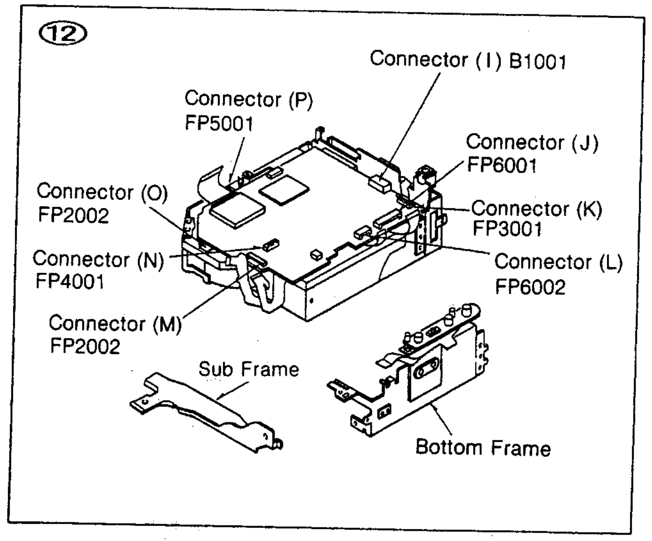
⑩


Connector (F)
FP301
②
Lift up
SCREW (M)
Slide
①
LOCKING BOSS
SCREW (M)
5mm
BLACK

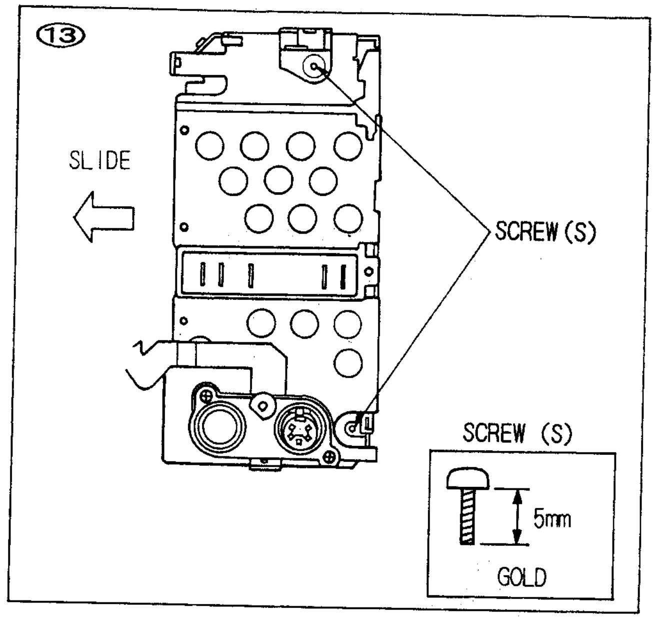
⑪


SCREW (O)
Connector (G)
FP1001
SCREW (N)
Slide the Sub Frame
SCREW (P)
Slide the Bottom Frame
SCREW (Q)
Connector (H)
FP3002
SCREW (R)
SCREW (R)
3mm
GOLD
SCREW (Q)
7mm
SILVER
SCREWS (O), (P)
5mm
GOLD
SCREW (N)
2mm
GOLD

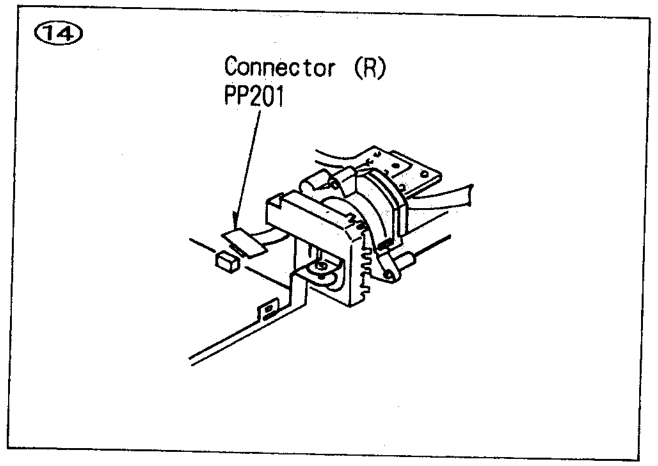
⑫


Connector (I) B1001
Connector (P)
FP5001
Connector (J)
FP6001
Connector (O)
FP2002
Connector (K)
FP3001
Connector (N)
FP4001
Connector (L)
FP6002
Connector (M)
FP2002
Sub Frame
Bottom Frame

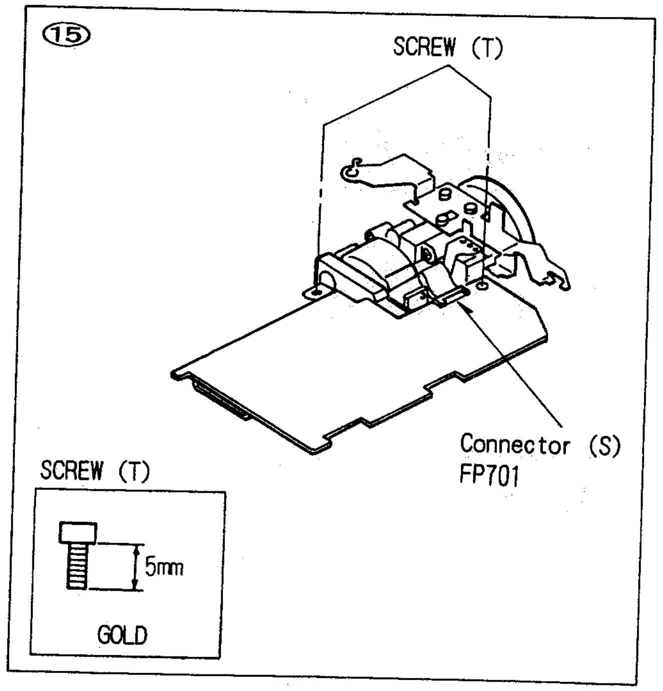
⑬


SLIDE
SCREW (S)
SCREW (S)
5mm
GOLD

⑭


Connector (R)
PP201

⑮


SCREW (T)
Connector (S)
FP701
SCREW (T)
5mm
GOLD

2-2. DISASSEMBLY PROCEDURES OF LENS UNIT

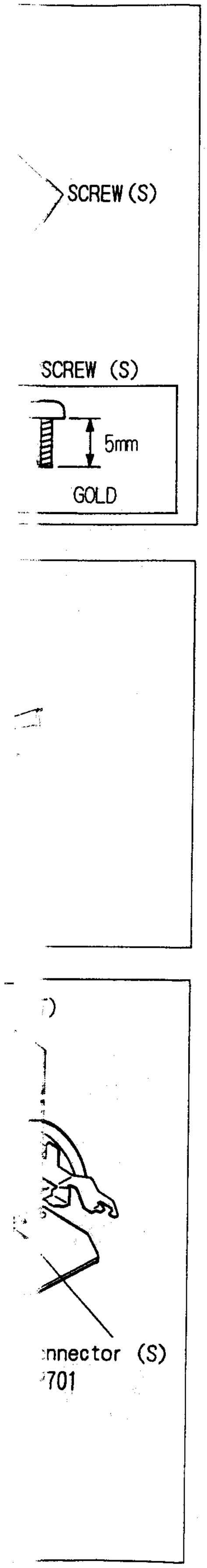
The following flowchart describes order or steps for removing the Lens Units and certain printed circuit boards in order to make access to the item needing service.

To reassemble the unit follow the steps in reverse order.

1. CCD Unit	Ref-No. 202
2. CCD Cushion & Crystal Filter	Ref-No. 203/201
3. Focus Motor Unit	Ref-No. 208
4. Zoom Motor Unit	Ref-No. 207
5. Filter Mount Plate	Ref-No. 206
6. 4th Moving Frame Unit	Ref-No. 214
7. Focus Guide Pole	Ref-No. 210
8. 3rd Lens Frame Unit	Ref-No. 216
9. Iris Unit	Ref-No. 211
10. 2nd Moving Frame Unit	Ref-No. 212
11. Focus Guide Pole	Ref-No. 209

Note: Each Ref-numbers are equivalant to number on Fig L2 and Parts-List.

Fig. L1


SCREW (S)
SCREW (S)
5mm
GOLD
nnector (S)
701

2-2. DISASSEMBLY PROCEDURES OF LENS UNIT

The following flowchart describes order or steps for removing the Lens Units and certain printed circuit boards in order to make access to the item needing service.

To reassemble the unit follow the steps in reverse order.

1. CCD Unit	Ref-No. 202
▽	
2. CCD Cushion & Crystal Filter	Ref-No. 203/201
▽	
3. Focus Motor Unit	Ref-No. 208
▽	
4. Zoom Motor Unit	Ref-No. 207
▽	
5. Filter Mount Plate	Ref-No. 206
▽	
6. 4th Moving Frame Unit	Ref-No. 214
▽	
7. Focus Guide Pole	Ref-No. 210
▽	
8. 3rd Lens Frame Unit	Ref-No. 216
▽	
9. Iris Unit	Ref-No. 211
▽	
10. 2nd Moving Frame Unit	Ref-No. 212
▽	
11. Focus Guide Pole	Ref-No. 209
▽	

Note: Each Ref-numbers are equivalant to number on Fig L2 and Parts-List.

Fig. L1

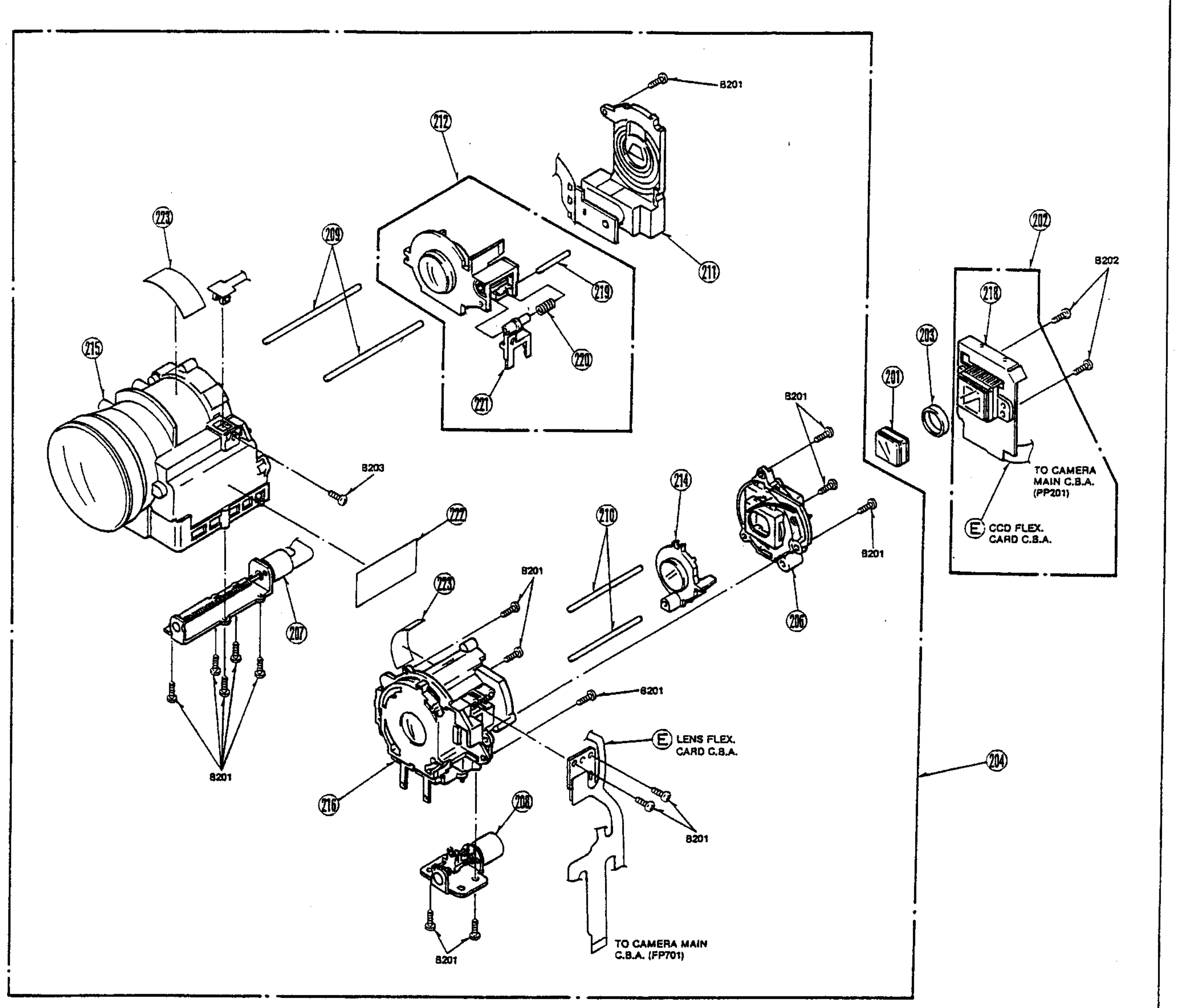

B201
212
211
223
209
219
202
B202
218
215
220
221
203
201
B201
B203
214
210
222
B201
223
207
206
B201
B201
B201
E LENS FLEX. CARD C.B.A.
216
208
B201
B201
204
TO CAMERA MAIN C.B.A. (FP701)
TO CAMERA MAIN C.B.A. (PP201)
E CCD FLEX. CARD C.B.A.

Fig. L2

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

TEST EQUIPMENT AND TOOLS

The following equipment are required for adjustment of the VTR & E.V.F section of VHS-Movie.

	Item & Spec/Range		Item & Spec/Range
1	Extension Cables VFKW0F0001/VFKW0F0143/VFKW0F0136 (FP301 ~FP1001) VFKW0F0001/VFKW0F0145/VFKW0F0138 (FP6003~CAM.OP) VFKW0F0001/VFKW0F0147/VFKW0T0001 (FP301 ~FP3003) VFK0498 (P4001 ~MIC)	5	Dual Trace Oscilloscop Voltage Range : 0.01~50V Frequency Range: 0.0 ~50MHz
		6	Probe for Oscilloscop Voltage Range : 0.01~50V (10:1 or 1:1Probe)
2	Video Sweep Generator Frequency Range: 0.0 ~50MHz	7	VHS-C Movie Alighment Tape(VFM8018HQPP)
		8	S-VHS-C Blank Tape
3	Colour Monitor TV	9	Colour Bar Chart/Gray Scale Chart/Black & White Chart
4	Plastic Tip Driver		

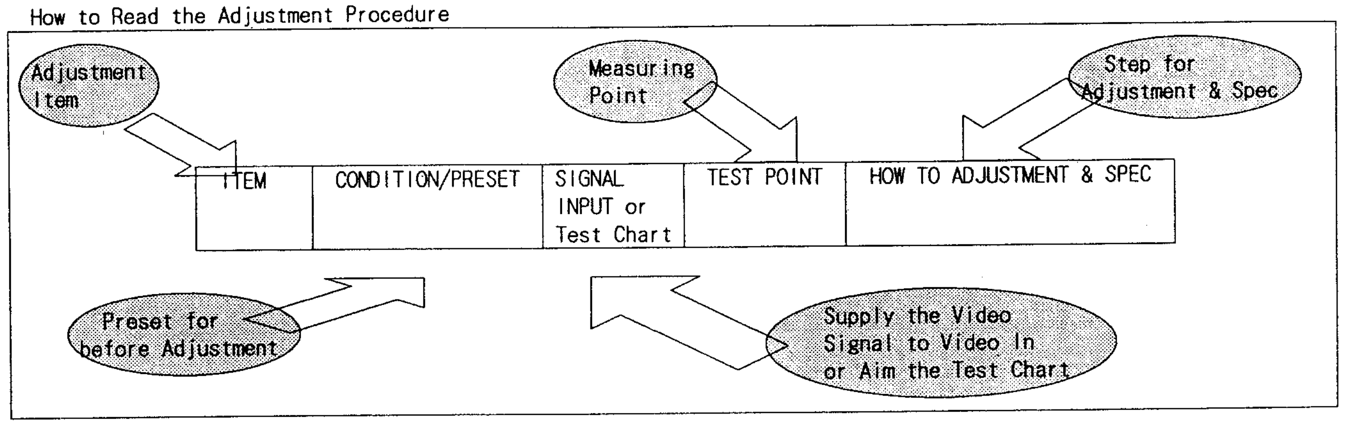
PREPARATION:

(A). Remove the Casing panels. ⇨Please Refer to Disassembly procedure.

(B). Connect the Camera Unit, VCR Unit, Side Case (R) and Front Case. ⇨Please Refer to Fig. E1

(C). The camera unit must be completely aligned befor adjustment for VCR unit/viewfinder unit.

How to Read the Adjustment Procedure


Adjustment Item
Measuring Point
Step for Adjustment & Spec
ITEM
CONDITION/PRESET
SIGNAL INPUT or Test Chart
TEST POINT
HOW TO ADJUSTMENT & SPEC
Preset for before Adjustment
Supply the Video Signal to Video In or Aim the Test Chart

Preparation for Electrical Adjustment

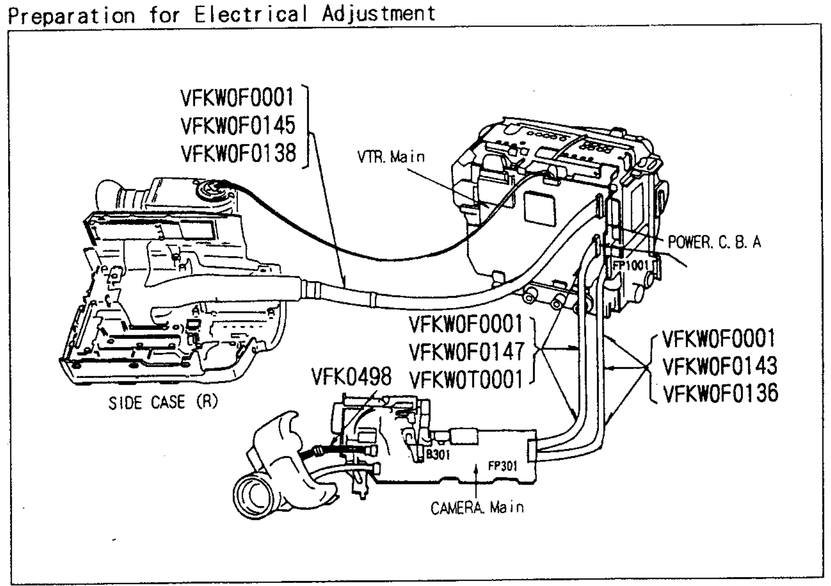


Fig. E1

Note: Triggering the Oscilloscope
To trigger the Oscilloscope, followingng test point is used.

H. Rate: Video Output
V. Rate: B6004-6(Head Switching Signal)

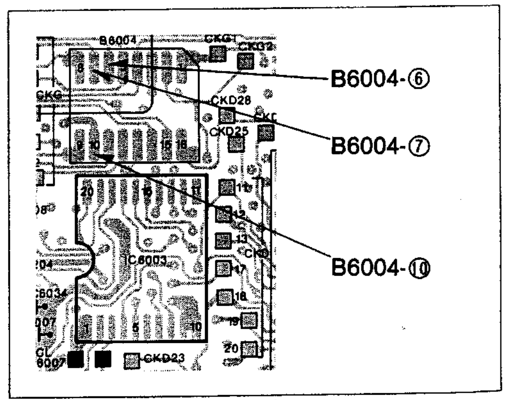


Fig. E2

Note: Following Adjustment requied EVR fixture.
So, adhustment procedure described on
Service manual VMD9507M131.

1. Croma/Luminance Recording Current.
2. FM Audio Recording Current.
3. PG Shifter Adjustment.

2-3-1. ELECTRICAL ADJUSTMENT FOR VTR SECTION

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1. S-VHS WHITE PEAK	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Supply Colour-Bar signal to B6004-⑦. 3. Set the unit S-VHS mode. 4. Turn the unit Recording Mode with S-VHS Blank-Tape. 5. Connect the Oscilloscope to the IC3001-51.	Colour Bar Siganl	IC3001-51	1. Turn the VR3004 so that signal level at IC3001-51 becoeme 400±10mVp-p.
2. BURST LEVEL	1. IRIS close 2. Connect the Oscilloscope to Vide Out.	————	Video-out	1. Turn the VR5503 so that Burst level becoeme 300±10mVp-p. (75 Ω Termonated) (Please refer to Fig. E3)
3. VCO	1. Connect the Frequency counter to TL5503. 2. Turn the unit S-VHS mode. 3. Connect the jumper wire between TL5504 & GND. 4. Connect the jumper wire between TL5505 & TL5502.	————	TL5503	1. Turn the VR5502 so that frequency at TL5503 become 627±10KHz.
4. S-VHS PLAYBACK LEVEL	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Supply Colour-Bar signal to B6004-⑦. 3. Set the unit S-VHS mode. 4. Turn the unit Recording Mode with S-VHS Blank-Tape. 5. Connect the Oscilloscope to the VIdeo-Out. 6. Playback the recorded signal.	Colour Bar Siganl	Video-out	1. Adjust the VR3006 so that the signal level at Video-out become 1.0 ±10mVp-p. (75 Ω Termonated) 2. Adjust the VR3006 so that the signal level at S-VHS-out become 1.0 ±10mVp-p. (75 Ω Termonated) (Please refer to Fig. E4)
5. YNR	1. Playback the alignment tape (VFM8180HUPF) 2. Connect Oscilloscope to TL3004.	————	TL3004	1. Turn VR3005 so that signal level is minimized. (Please refer to Fig. E5)
6. HEAD AMP FREQUENCY RESPONCE	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Set the Sweep generator as shown in Fig. E6. 3. Supply Sweep signal to B6004- ⑦ and the record the signal for few minute 4. Play back the recorded signal. 5. Connect the Video Out to Oscilloscope.	Sweep signal to B6004- ⑩	Video Out	1. Turn VR3008 so that signal level at the 2MHz is within spec as shown in Fig. E7.
7. COS EQ	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Set the Sweep generator as shown in Fig. E8. 3. Supply Sweep signal to B6004- ⑦ and the record the signal for few minute 4. Play back the recorded signal. 5. Connect the Video Out to Oscilloscope.	Sweep signal to B6004- ⑩	Video Out	1. Turn VR3007 so that signal level at the 4MHz is within spec as shown in Fig. E9.
8 VITC	1. Close the Iris or Cover the lens. 2. Connect the Video Out to Oscilloscope.	Rec-Pause with Blank tape.	Video Out	1. Turn VR6301 so that VITC signal level become 540±20mVp-p as shown in Fig. E10 (75 Ω Termonated)
9 VCO-1 FOR TBC	1. Playback the Non-recorded Tape. 2. Connect the Frequency Counter to TL3504.	————	TL3504	1. Turn VR3503 so that frequency at TL3504 become 15.625±0.1KHz.
10 VCO-2 FOR TBC	1. Playback the Non-recorded Tape. 2. Connect the Frequency Counter to TL3507.	————	TL3507	1. Turn VR3501 so that frequency at TL3504 become 17.73 ±0.1KHz.
11 CCD-BIAS FOR TBC	1. Connect the Oscilloscope to the S-VHS out. 2. Playback the Alignment tape.	Playback the VFM8180HUPF	S-VHS out	1. Turn VR3505 so that signal level become Maximum.

hite Chart

mbly procedure.

for
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ope, followingng

ng Signal)

B6004-⑥
B6004-⑦
B6004-⑩

2-3-1. ELECTRICAL ADJUSTMENT FOR VTR SECTION

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1. S-VHS WHITE PEAK	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Supply Colour-Bar signal to B6004-⑦. 3. Set the unit S-VHS mode. 4. Turn the unit Recording Mode with S-VHS Blank-Tape. 5. Connect the Oscilloscope to the IC3001-51.	Colour Bar Siganl	IC3001-51	1. Turn the VR3004 so that signal level at IC3001-51 becoeme 400±10mVp-p.
2. BURST LEVEL	1. IRIS close 2. Connect the Oscilloscope to Vide Out.	————	Video-out	1. Turn the VR5503 so that Burst level becoeme 300±10mVp-p. (75 Ω Termonated) (Please refer to Fig. E3)
3. VCO	1. Connect the Frequency counter to TL5503. 2. Turn the unit S-VHS mode. 3. Connect the jumper wire between TL5504 & GND. 4. Connect the jumper wire between TL5505 & TL5502.	————	TL5503	1. Turn the VR5502 so that frequency at TL5503 become 627±10KHz.
4. S-VHS PLAYBACK LEVEL	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Supply Colour-Bar signal to B6004-⑦. 3. Set the unit S-VHS mode. 4. Turn the unit Recording Mode with S-VHS Blank-Tape. 5. Connect the Oscilloscope to the VIdeo-Out. 6. Playback the recorded signal.	Colour Bar Siganl	Video-out	1. Adjust the VR3006 so that the signal level at Video-out become 1.0 ±10mVp-p. (75 Ω Termonated) 2. Adjust the VR3006 so that the signal level at S-VHS-out become 1.0 ±10mVp-p. (75 Ω Termonated) (Please refer to Fig. E4)
5. YNR	1. Playback the alignment tape (VFM8180HUPF) 2. Connect Oscilloscope to TL3004.	————	TL3004	1. Turn VR3005 so that signal level is minimized. (Please refer to Fig. E5)
6. HEAD AMP FREQUENCY RESPONCE	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Set the Sweep generator as shown in Fig. E6. 3. Supply Sweep signal to B6004- ⑦ and the record the signal for few minute 4. Play back the recorded signal. 5. Connect the Video Out to Oscilloscope.	Sweep signal to B6004- ⑩	Video Out	1. Turn VR3008 so that signal level at the 2MHz is within spec as shown in Fig. E7.
7. COS EQ	1. Connect the jumper wire between B6004-⑩ and B6004-⑥. (Please refer to Fig. E2) 2. Set the Sweep generator as shown in Fig. E8. 3. Supply Sweep signal to B6004- ⑦ and the record the signal for few minute 4. Play back the recorded signal. 5. Connect the Video Out to Oscilloscope.	Sweep signal to B6004- ⑩	Video Out	1. Turn VR3007 so that signal level at the 4MHz is within spec as shown in Fig. E9.
8 VITC	1. Close the Iris or Cover the lens. 2. Connect the Video Out to Oscilloscope.	Rec-Pause with Blank tape.	Video Out	1. Turn VR6301 so that VITC signal level become 540±20mVp-p as shown in Fig. E10 (75 Ω Termonated)
9 VCO-1 FOR TBC	1. Playback the Non-recorded Tape. 2. Connect the Frequency Counter to TL3504.	————	TL3504	1. Turn VR3503 so that frequency at TL3504 become 15.625±0.1KHz.
10 VCO-2 FOR TBC	1. Playback the Non-recorded Tape. 2. Connect the Frequency Counter to TL3507.	————	TL3507	1. Turn VR3501 so that frequency at TL3504 become 17.73 ±0.1KHz.
11 CCD-BIAS FOR TBC	1. Connect the Oscilloscope to the S-VHS out. 2. Playback the Alignment tape.	Playback the VFM8180HUPF	S-VHS out	1. Turn VR3505 so that signal level become Maximum.

Fig For ELECTRICAL ADJUSTMENT OF VTR SECTION

Burst Level

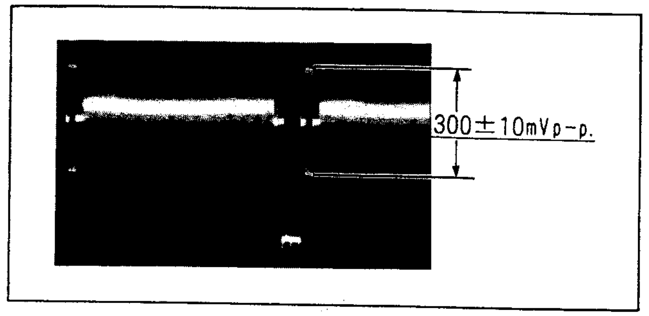


Fig. E3

S-VHS PLAYBACK LEVEL

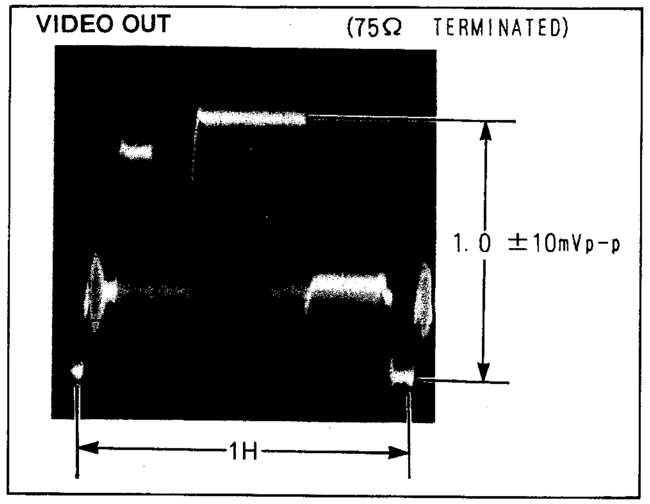


Fig. E4

YNR

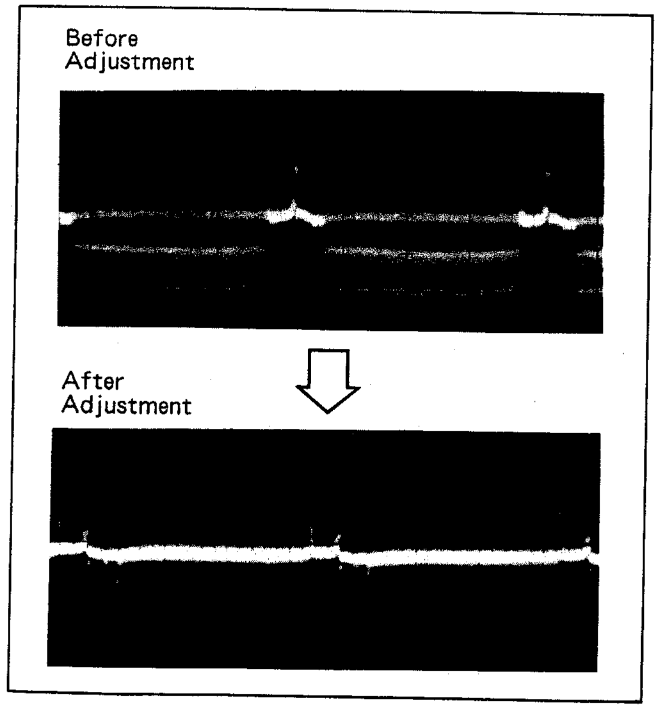
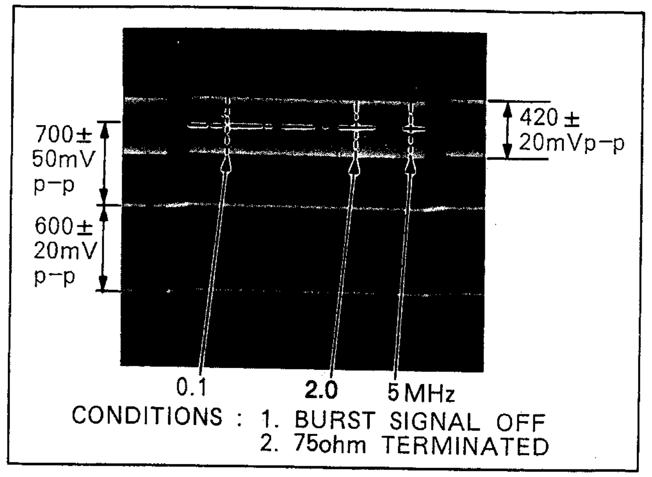


Fig. E5

Set up for Sweep Generator



CONDITIONS : 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig. E6

HEAD AMP FREQUENCY RESPONCE

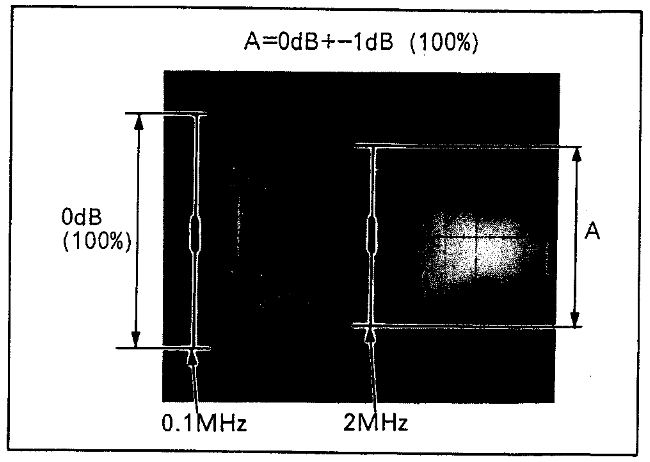


Fig. E7

Set up for Sweep Generator

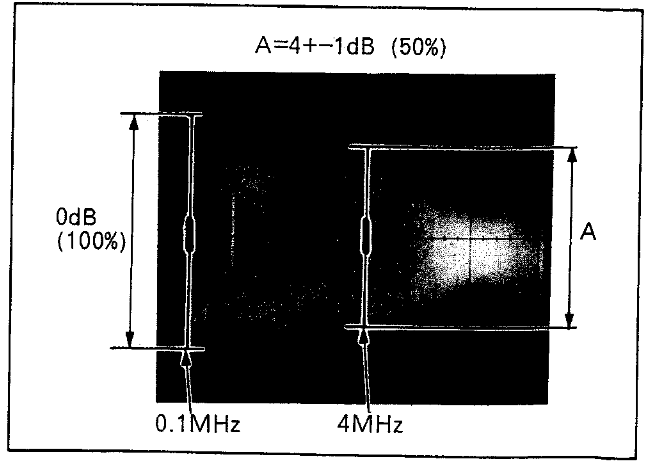
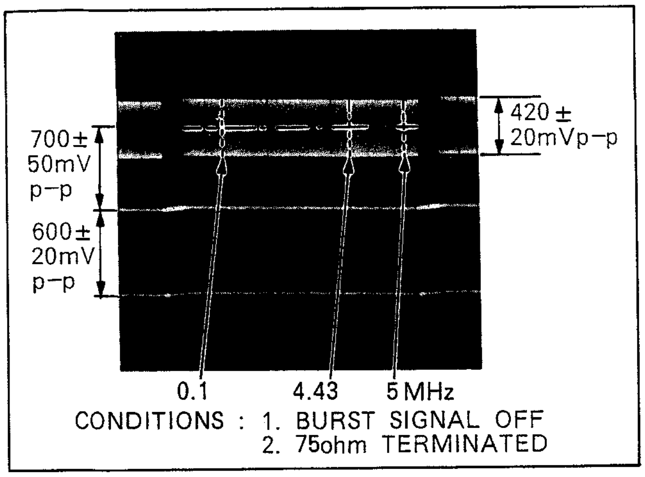


Fig. E8

COS EQ Adjustment



CONDITIONS : 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig. E9

VITC Adjustment

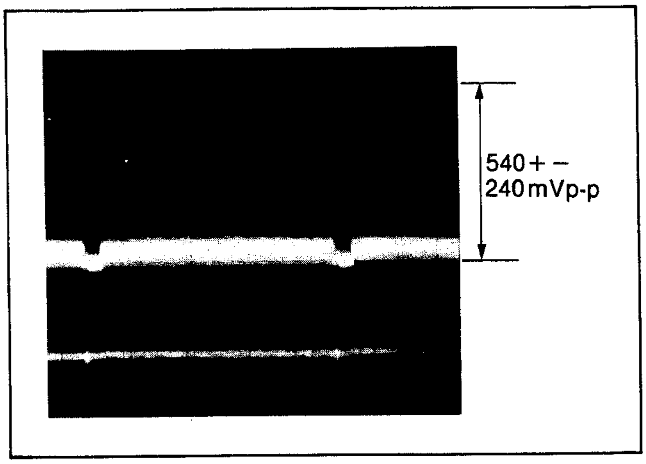
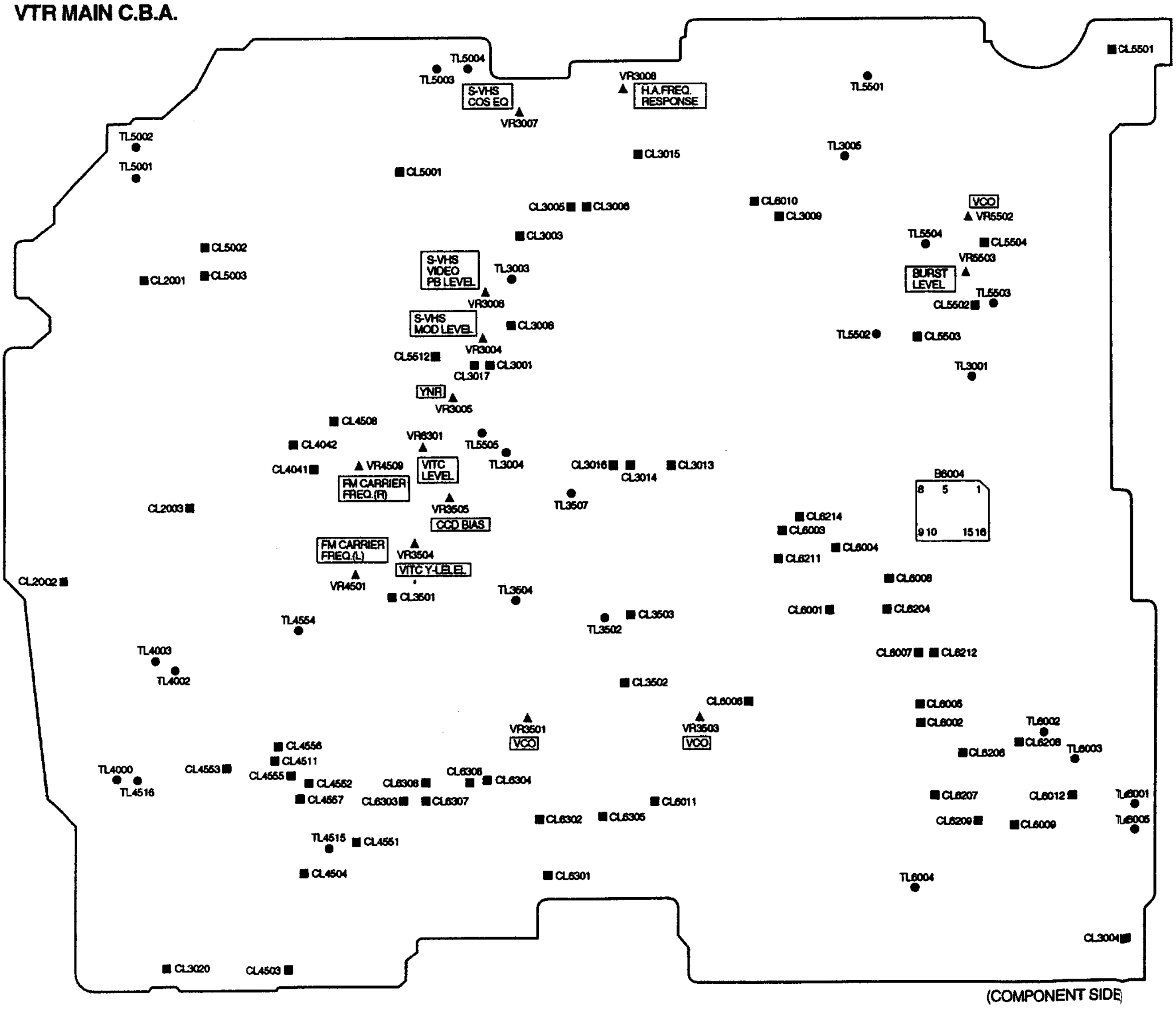


Fig. E10

LOCATION OF TEST POINTS & CONTROLS

VTR MAIN C.B.A.


TL5004
TL5003
S-VHS COS EQ
VR3007
VR3008
H.A.FREQ. RESPONSE
TL5501
CL5501
TL5002
TL5001
CL5001
CL3015
TL3005
CL3005
CL3006
CL6010
CL3009
VCO
VR5502
CL3003
TL5504
CL5504
CL5002
CL2001
CL5003
S-VHS VIDEO PB LEVEL
TL3003
VR5503
BURST LEVEL
TL5503
VR3006
CL5502
S-VHS MOD LEVEL
CL3008
TL5502
CL5503
VR3004
CL5512
CL3001
CL3017
TL3001
YNR
VR3005
CL4508
VR6301
TL5505
CL4042
CL4041
VR4509
VITC LEVEL
TL3004
CL3016
CL3014
CL3013
B6004
8
5
1
9
10
15
16
FM CARRIER FREQ.(R)
VR3505
TL3507
CL2003
CCD BIAS
CL6214
CL6003
CL6004
FM CARRIER FREQ.(L)
VR3504
CL6211
VITC Y-LELEL
VR4501
CL2002
CL6008
CL3501
TL3504
CL3503
CL6001
CL6204
TL4554
TL3502
TL4003
CL6007
CL6212
TL4002
CL3502
CL6006
VR3501
VCO
VR3503
VCO
CL6005
CL6002
TL6002
CL6208
TL6003
CL6206
CL4556
CL4511
TL4000
CL4553
CL4555
CL4552
CL6308
CL6306
CL6304
TL4516
CL4557
CL6303
CL6307
CL6011
CL6207
CL6012
TL6001
CL6302
CL6305
CL6209
CL6009
TL6005
TL4515
CL4551
CL4504
CL6301
TL6004
CL3004
CL3020
CL4503

(COMPONENT SIDE)

2-3-2. ELECTRICAL ADJUSTMENT FOR AUDIO SECTION

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1. FM CARRIER	1. Disconnect the P4001. 2. Connect the Frequency counter to TL4515 & TL4516.	————	L-CH = TL4515 R-CH = TL4516	L-CH = 1.4M ±10KHz (Adjusted By VR4501) R-CH = 1.8M ±10KHz (Adjusted By VR4509)

2-3-3. ELECTRICAL ADJUSTMENT FOR EVF SECTION

The following adjustment are Electric Viewfinder.

Note: (A). Connect the Viewfinder to unit.
(B). The camera unit must be completely aligned befor viewfinder adjustment.

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1. CENTREING	Aim the camera at Registration chart.	Registration Chart	E.V.F on Screen	Adjust the deflection-yoke centreing magnets turning so that picture on E.V.F is centred. Please Refer to Fig. F1.
2. FOCUS	Aim the camera at Ball chart.	Ball Chart	E.V.F on Screen	Adjust the VR803 for best resolution in Viewfinder. Note: After performed this adjustment, confirm "A" part of VR803. "A" part is outside of 100 degree. Please Refer to Fig. F2.
3. VERTICAL SIZE	Aim the camera at Gray-Scale chart	Gray Scale Chart	E.V.F & TV on Screen	Adjust the VR801 for best vertical size. (Picture does not roll as shown in Fig. F3.)
4. BRIGHTNESS	Aim the camera at Gray-Scale chart	Gray Scale Chart	E.V.F & TV on Screen	Adjust the VR804 so that brightness in viewfinder is same as monitor TV.

Adjustment for Centreing

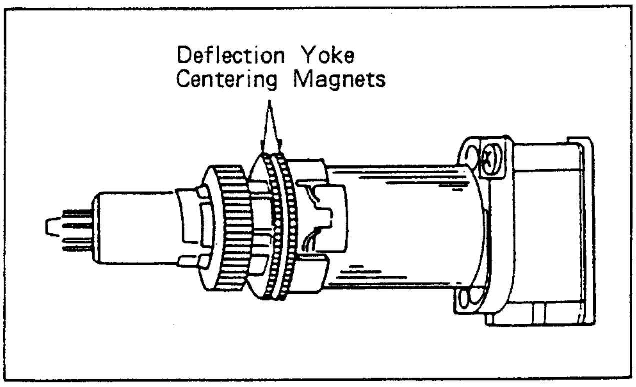


Fig. F1

Adjustment for Vertical Size

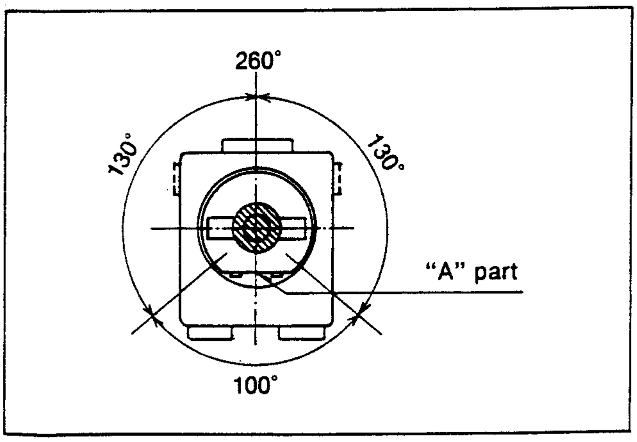


Fig. F2

Adjustment for Focus

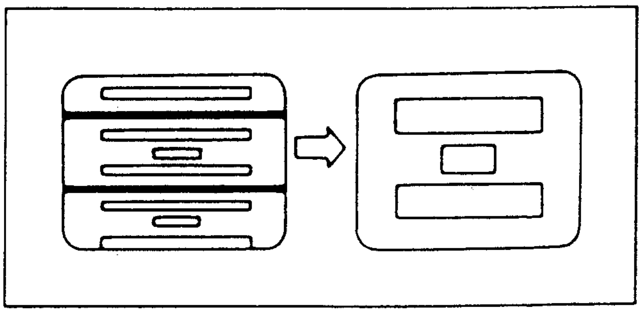
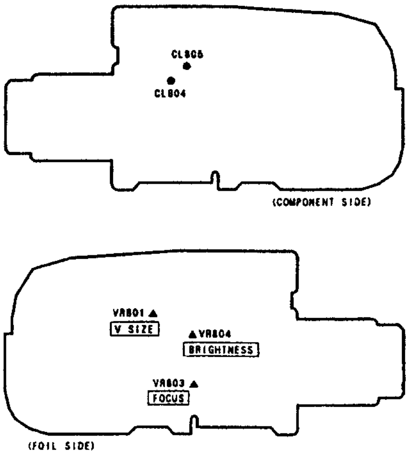


Fig. F3

LOCATION OF TEST POINTS & CONTROLS

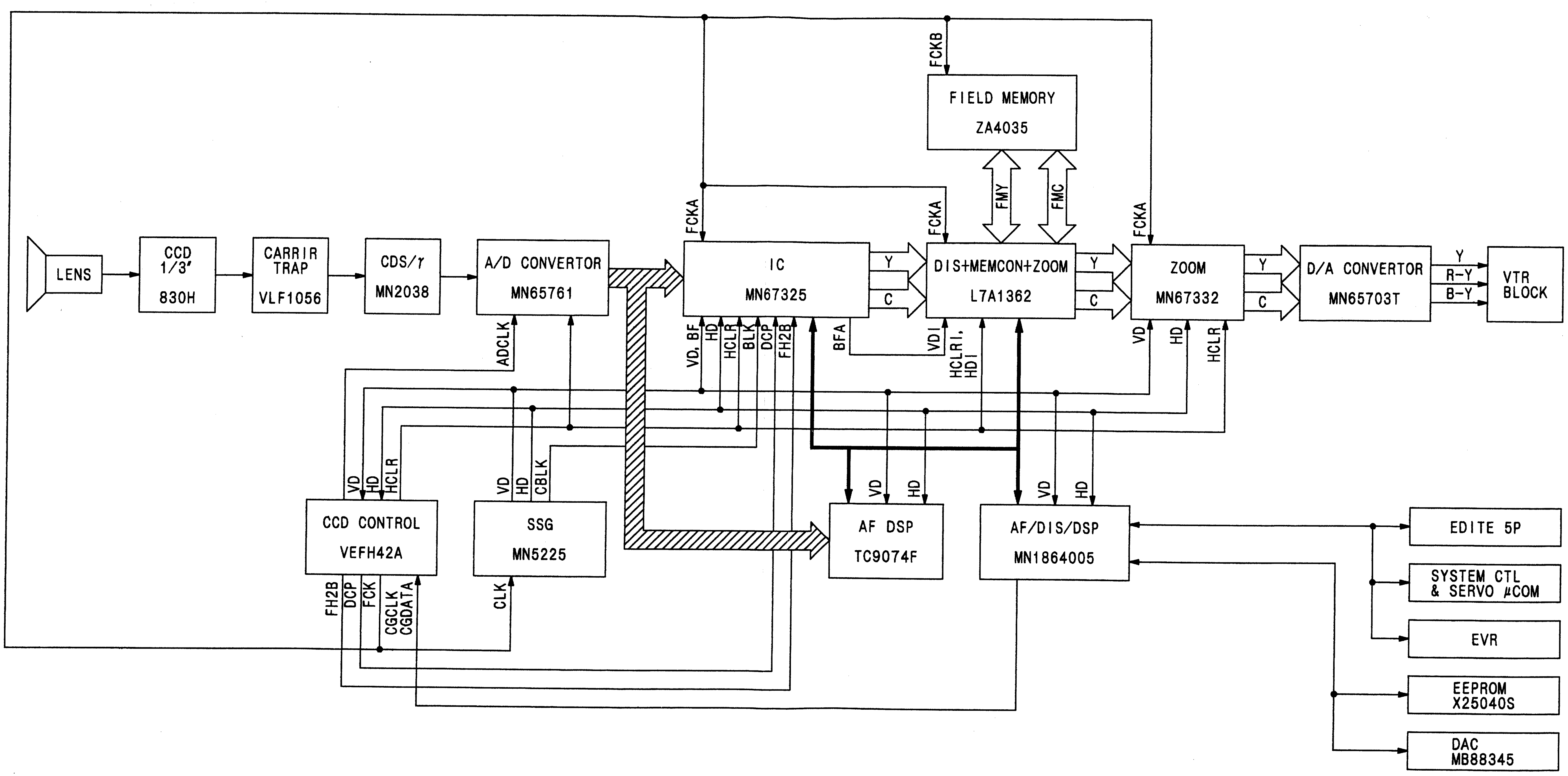
E.V.F. C.B.A.



SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. ABBREVIATIONS

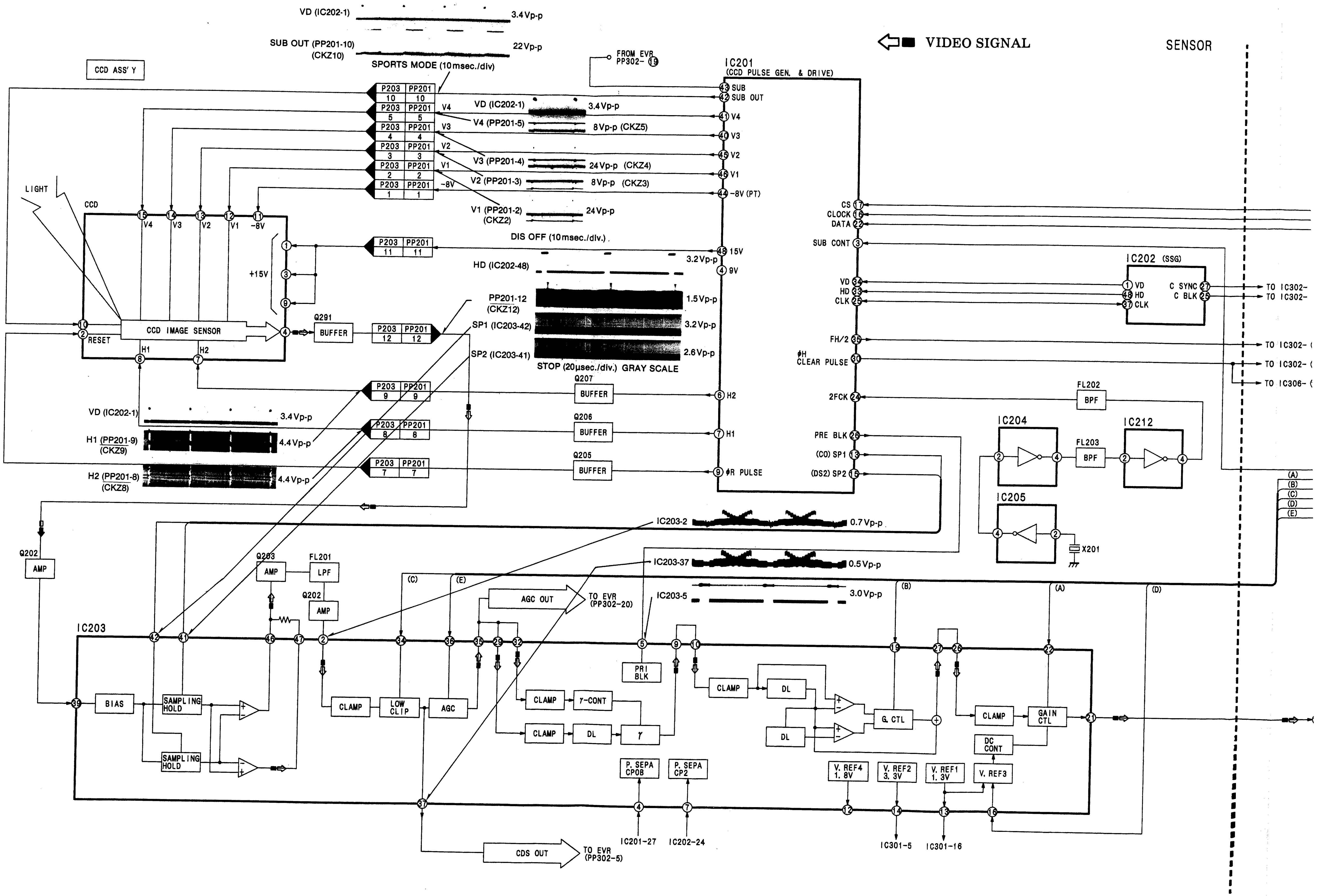
INITIAL/LOGO		ABBREVIATIONS
	3R3V	3.3V
A	A.TR	AUTO TRACKING
	ABSF	FOCUS ENCODER INPUT
	ADCLK	A/D CLOCK
	ADCNT	A/D CONTROL
	ADREC	AUDIO DELAIED REC
	ADUB	AUDIO DUBBING
	AE	AUTO EXPOSE
	AECNT	AUTO EXPOSE CONTROL
	AEIRQ	AUTO EXPOSE INTERRUPT REQUEST
	AFADE	AUDIO FADE
	AGCCNT	AGC CONTROL
	AGS	ANTI GROUND SHOOTING
	ALCCNT	ALC CONTROL
	ALCMAIN	ALC DRIVE
	AMUT	AUDIO MUTE
	AORP	AUDIO OVER LAP PULSE
	APS	AUTO POWER SAVE
	ARTV	ARTIFICAL VERTICAL SYNC
	ATR	AUTO TRACKING
	AWTB	AUTO WHITE BALANCE B-Y
	AWTR	AUTO WHITE BALANCE R-Y
B	B-Y KB	B-Y CARRIER BALANCE
	BACK	BACK-UP
	BATT	BATTERY
	BFA	BURST FLUG FOR ENCODER
	BFO/BFI	BURST FLUG INPUT/OUTPUT
	BL	BACK LIGHT
	BLDIN	BACK LIGHT DRIVE INPUT
	BLDOUT	BACK LIGHT DRIVE OUTPUT
	BLK	BLANKING PULSE
	BM	BALANCED MODULATOR
	BUF	BUFFER
C	CAPVM	CAPSTAN MOTOR CURRENT
	CAP R/S/F	CAPSTAN REVEASE/STOP/FORWARD
	CCW	COUTER CLOCKWISE
	CDS	CORRELATE DOUBLE SAMPLING SIGNAL
	CFM 1~4	CHROMINANCE FIELD MEMORY
	CGC	CHROMINANCE GAIN
	CH1	Channel 1(Odd Field)
	CHR MIX	CHARACTER MIX
	CK or CLK	CLOCK
	CLK2	CLOCK 2(824XFH: 12.875MHz)
	CFEM	CHORMINACE MEMORY SIGNAL
	CMO	CHROMA MEMORY OUTPUT
	CO0~7	CHORMO OUTPUT(DIGITAL)
	CP	CLAMP PULSE
	CPOB	OB CLAMP PULSE
	CS	CHIP SELECT
	CSEL1~2	CLOCK PHASE SELECET
	CTSW	CROSSTALK SWITCH
	CW	CLOCWISE
	CYLVM	CYLINDER MOTOR CURRENT or POWER
D	D MODE0~2	DIGITAL MODE SWITCH SIGNAL
	DAC	DIGITA/ANALOG CONVERTER
	D0~D8(D9)	VIDEO OUT(DIGITAL 8 or 9 BIT)
	DCLR	DIGITAL CLEAR
	DICLK	DIGITAL CLOCK
	DISCS	DIS CHIP SELECT
	DL	DELAY LINE
	DRK	DARK(LPF SWITCH FOR AUTO FOCUS)
	DS 1~2	DOUBLE SAMPLING PULSE
	DSP	DIGITAL SIGNAL PROCESS
	DZ	DIGITAL ZOOM
	DZ/OZ	DIGITAL ZOOM/OPTICAL ZOOM
E	ECM	ELECTRIC CONDENCER MIC
	EEPROM (E^2 PROM)	ELECTRIC ERASABLE PROGRAMABLE-READ ONLY MEMORY
	ENV	ENVELOPE DITECT
	EQ	EQUALIZER
	EZOOM	ELECTRIC ZOOM
F	FAR	FAR(FOCUS)
	FCK	CLOCK
	FENC	FOCUS ENCODER
	FH2B	FH/2(15.625KHz÷2 =7.8125KHz)
	FM CS	CHIP SELECT FOR FM-AUDIO
	FM MUTE	FM AUDIO MUTE
	FM0~7(8)	FIELD·MEMORY INPUT 8BIT(or 9BIT)
	FMD REC	FM AUDIO DELAYED REC
	FMOEM	FIELD MEMORY ENABLE
	FNO	F VALUE
G	GCNT	GAIN CONTROL
H	H1~H2	H.CCD DRIVE PULSE
	H.A SW	HEAD AMP SW
	HBRST	HIGH BRIGHT SET
	HCLR	HIGH CLEAR
	HEX	HEXADECIMAL
	HLT	HIGHT BRIGHT SIGNAL
I	INTER	INTERVAL RECORDING
	IOU	R-Y ANALOGUE SIGNAL OUTPUT
	IOV	B-Y ANALOGUE SIGNAL OUTPUT
	IRQ	INTERRUPT REQUEST
	IRIS/SH	IRIS/SHUTTET CONTROL
K	KANDO	DIGITAL GAIN UP
L	LD	LOAD PULSE
	LEDCNT	LED CONTROL
	LI-BATT	LITHIUM BATTERY
	LSB	LEAST SIGNFICANT BIT
	LVL	LPF SWITCH FOR AUTO FOCUS
M	MD	MODILATOR
	MFF	MANUAL FOCUS FAR
	MFN	MANUAL FOCUS NEAR
	MSB	MOST SIGNFICANT BIT
	MIX N.R.D	NON REC DATA MIX
N	N/F	NEAR/FAR(FOCUS)
	N/P	NTSC/PAL
	NC	NO CONNECTION
	NC1~3	NPN TRANSISTOR C-SIDE
	NDE	NON LINER DE-EMPHAIS
	NEAR	NEAR(FOCUS)
	NLE	NON LINER EMPHASIS
	NRD	NON REC DATA
	NRDBLK	NON REC DATA BLNKING
	NRE	READ ENABLE INPUT(LOW ACTIVE)
	NWE	WRITE ENABLE(LOW ACTIVE)
O	OBCNT	OPTICAL BLACK CONTROL
	OE	OUTPUT ENABLE
	OP	OPERATIONAL AMP OUTPUT
	OSD	ON SCREEN DISPLAY
P	PB1~3	PNP TRANSITOR B-SIDE
	PBLK	PRE-BLANKING
	PCBM(B-Y)	B-Y CARRIER BALANCE
	PCBM(R-Y)	R-Y CARRIER BALANCE
	PEDECNT	PEDESTAL CONTROL
	PORIN or POR	POWER ON RESET
	PREAP	PRE-AMP
	PREBLK	PRE-BLANKING
	PT	PROTECT FOR V VOLTAGE
	PWM	PULSE WIDTH MODULATOR
R	R/B	READT/BUSY
	R-Y KB	R-Y CARRIER BALANCE
	RAD	READ ADDRESS DATA
	RAE	READ ADDRESS ENABLE
	RE	READ ENABLE
	RE	ROTARY ERASE HEAD
	RERASE	ROTARY ERASE HEAD
	RST	RESET
	RSTPWD	RESET POWER DOWN INPUT
	RSTR	RESET READ
	RSTW	RESET WRITE
S	S/S	START/STOP
	SBO	SERIAL OUTPUT
	SBD	SERIAL DATA
	SCLK	SERIAL CLOCK
	SCR	SERCH
	SDET	S-VHS DETECT
	SH/IRIS	SHUTTER/IRIS CONTROL
	STAB	S-VHS TAB SWITCH
	STRB	STRBO MODE
	SUB CNT	SUB CONTROL
T	TBC	TIME BASE CORRECTOR
	TBC.C OUT	TIME BASE CORRECTOR CHROMA OUT
	TBC.V OUT	TIME BASE CORRECTOR VIDEO OUT
	TL	TORQUE LIMIT
	TRFIX	TRACKING FIX
	TRIWAVE	TRIANGLE WAVE
	TRP	TRAP
U	U/V SECT	R-Y/B-Y SELECT SIGNAL
	UVSEL	R-Y/B-Y SELECT SIGNAL
V	V1~V4	V.CCD DRIVE PULSE
	VB	VH FILTER SWITCHING
	VCO	VOLTAGE CONTROL OSCILLTOR
	VCTRL	VOLTAGE CHARGE CONTROL
	VD	VERTICAL DRIVE PULSE
	VDREC	VIDEO DELAYED REC
	VDDX	X DRIVE POWER FOR COLOUR LCD
	VDDXY	XY DRIVE POWER FOR COLOUR LCD
	VDDY	Y DRIVE POWER FOR COLOUR LCD
	VIN	VIDEO IN(ANALOGUE)
	VITC	VETICAL INTERVAL TIME CODE
	VMD1~VMD3	VELOCITY MODE DATA(SHUTTER)
	VMVH	VH FILTER SWITCHING
	VORP	VIDEO OVERLAP
	VRB	VOLTAGE REFERENCE BOTTOM(1.3V)
	VREF1R3V	REFERENCE VOLTAGE 1.3V
	VREF3R3V	REFERENCE VOLTAGE 3.3V
	VREFH	REFERENCE VOLTAGE HIGH SIDE
	VREFL	REFERENCE VOLTAGE LOW SIDE
	VRI	REFERENCE VOLTAGE INPUT
	VRO	REFERENCE VOLTAGE OUTPUT
	VRT	VOLTAGE REFERENCE TOP(3.3V)
	VSS	VERTICAL SYNC SIGNAL
	VSSX	X DRIVER POWR FOR COLOUR LCD
	VSSXY	X-Y DRIVER POWR FOR COLOUR LCD
W	WAD or WAE	WRITE ADDRESS ENABLE
	WE	WRITE ENABLE
	WHD	WIDE HORIZONTAL DRIVE PULSE
Y	Y0~Y7(Y8)	8BIT(9BIT)LUMINANCE DIGITAL SIGNAL
	YNCST	NOISE CANCELER
	YNR	NOISE REDUCTION
Z	Z ENC	ZOOM ENCODER
	Z-MIC	ZOOM MIC
	ZENC1/ZENC4	ZOOM ENCEODER OUTPUT
	ZMTER	ZOOM MOTOR TELE SIDE
	ZMT(+)/(-)	ZOOM MOTOR (+)/(-)
	ZMW	ZOOM MOTOR WIDE SIDE

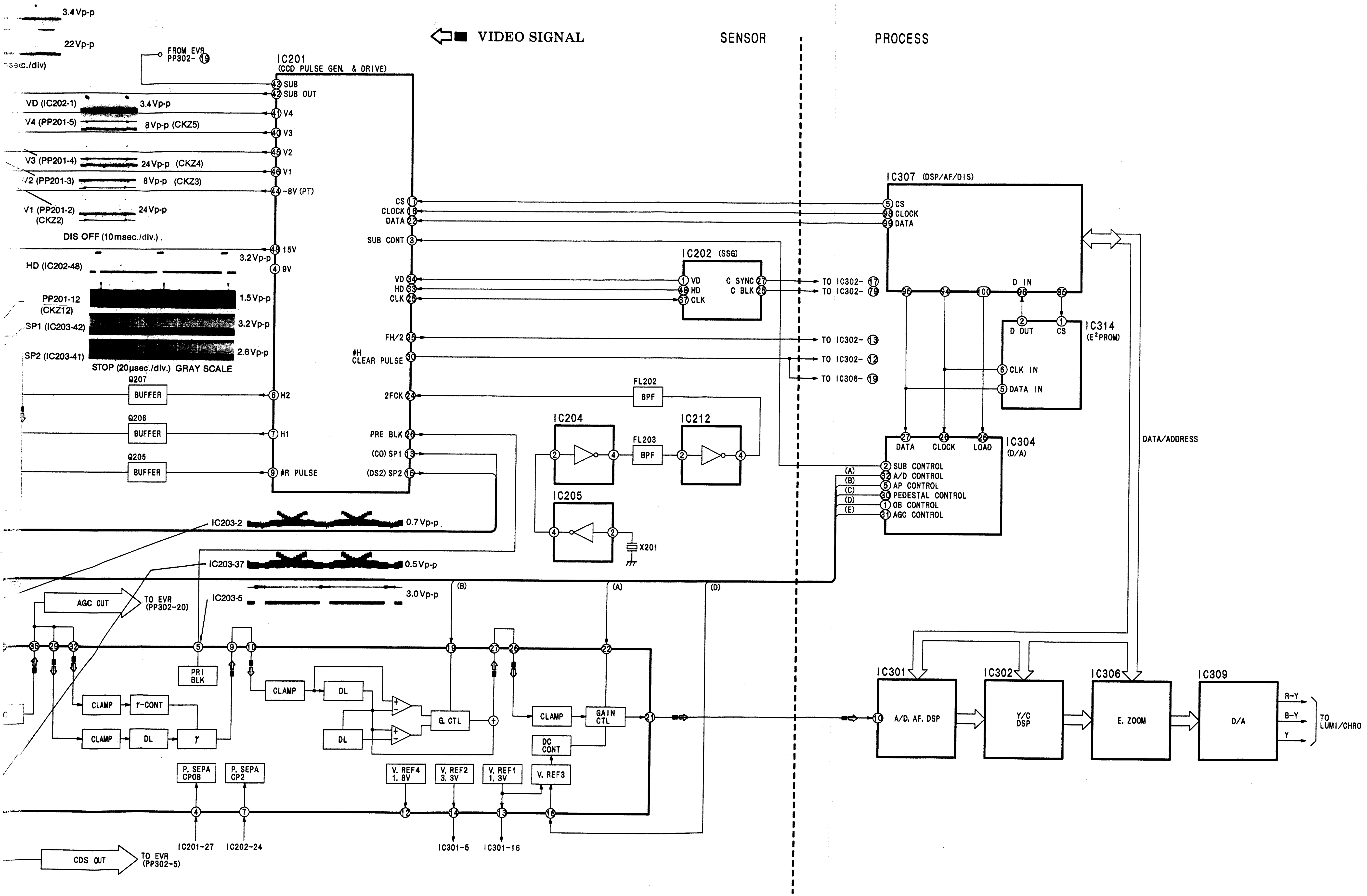
3-2. OVERALL BLOCK DIAGRAM


LENS
CCD
1/3″
830H
CARRIR
TRAP
VLF1056
CDS/γ
MN2038
A/D CONVERTOR
MN65761
IC
MN67325
FIELD MEMORY
ZA4035
FCKB
FMY
FMC
FCKA
DIS+MEMCON+ZOOM
L7A1362
ZOOM
MN67332
D/A CONVERTOR
MN65703T
Y
R-Y
B-Y
VTR
BLOCK
Y
C
ADCLK
VD, BF
HD
HCLR
BLK
DCP
FH2B
BFA
VDI
HCLRI,
HDI
VD
HD
HCLR
CCD CONTROL
VEFH42A
SSG
MN5225
CBLK
AF DSP
TC9074F
AF/DIS/DSP
MN1864005
FH2B
DCP
FCK
CGCLK
CGDATA
CLK
EDITE 5P
SYSTEM CTL
& SERVO μCOM
EVR
EEPROM
X25040S
DAC
MB88345

Back Page:
ABBREVIATION Section

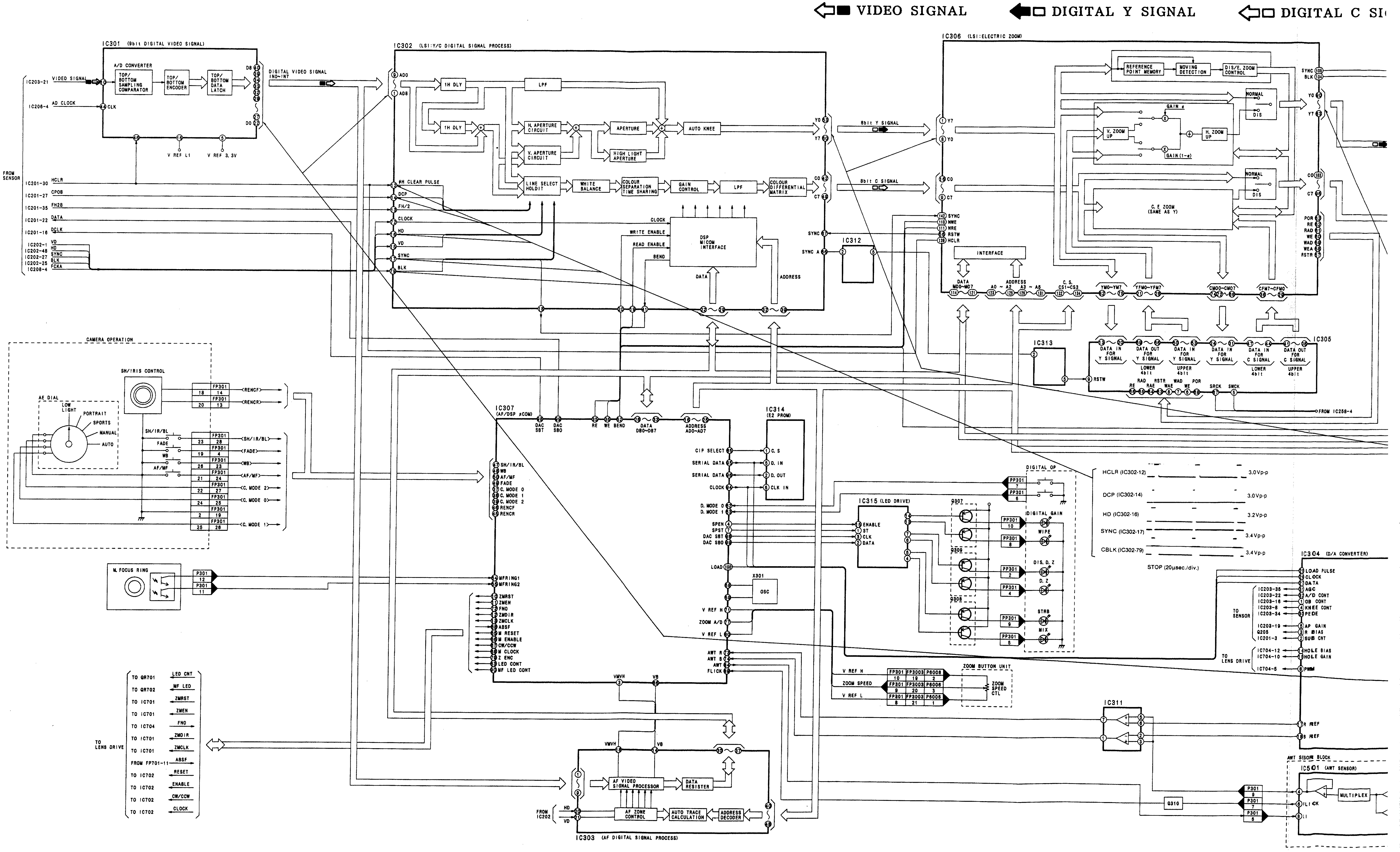
3-3. SENSOR BLOCK DIAGRAM


VIDEO SIGNAL
SENSOR
CCD ASS'Y
VD (IC202-1) 3.4Vp-p
SUB OUT (PP201-10) (CKZ10) 22Vp-p
SPORTS MODE (10msec./div)
FROM EVR PP302-19
IC201 (CCD PULSE GEN. & DRIVE)
P203 PP201
SUB
SUB OUT
V4 V3 V2 V1 -8V
VD (IC202-1) 3.4Vp-p
V4 (PP201-5) 8Vp-p (CKZ5)
V3 (PP201-4) 24Vp-p (CKZ4)
V2 (PP201-3) 8Vp-p (CKZ3)
V1 (PP201-2) (CKZ2) 24Vp-p
-8V (PT)
LIGHT
CCD
+15V
DIS OFF (10msec./div.)
15V
9V
HD (IC202-48) 3.2Vp-p
PP201-12 (CKZ12) 1.5Vp-p
SP1 (IC203-42) 3.2Vp-p
SP2 (IC203-41) 2.6Vp-p
STOP (20μsec./div.) GRAY SCALE
CCD IMAGE SENSOR
RESET
H1 H2
Q291 BUFFER
Q207 BUFFER
Q206 BUFFER
Q205 BUFFER
H2
H1
φR PULSE
VD (IC202-1) 3.4Vp-p
H1 (PP201-9) (CKZ9) 4.4Vp-p
H2 (PP201-8) (CKZ8) 4.4Vp-p
CS CLOCK DATA
SUB CONT
VD HD CLK
FH/2
φH CLEAR PULSE
2FCK
PRE BLK
(CO) SP1
(DS2) SP2
IC202 (SSG)
VD HD CLK
C SYNC C BLK
TO IC302-
TO IC306-
FL202 BPF
FL203 BPF
IC204
IC212
IC205
X201
(A) (B) (C) (D) (E)
IC203-2 0.7Vp-p
IC203-37 0.5Vp-p
IC203-5 3.0Vp-p
Q202 AMP
Q203 AMP
FL201 LPF
Q202 AMP
AGC OUT
TO EVR (PP302-20)
IC203
BIAS
SAMPLING HOLD
SAMPLING HOLD
CLAMP
LOW CLIP
AGC
CLAMP
γ-CONT
CLAMP
DL
γ
PRI BLK
CLAMP
DL
DL
G. CTL
CLAMP
GAIN CTL
DC CONT
P. SEPA CPOB
P. SEPA CP2
V. REF4 1.8V
V. REF2 3.3V
V. REF1 1.3V
V. REF3
CDS OUT
TO EVR (PP302-5)
IC201-27
IC202-24
IC301-5
IC301-16

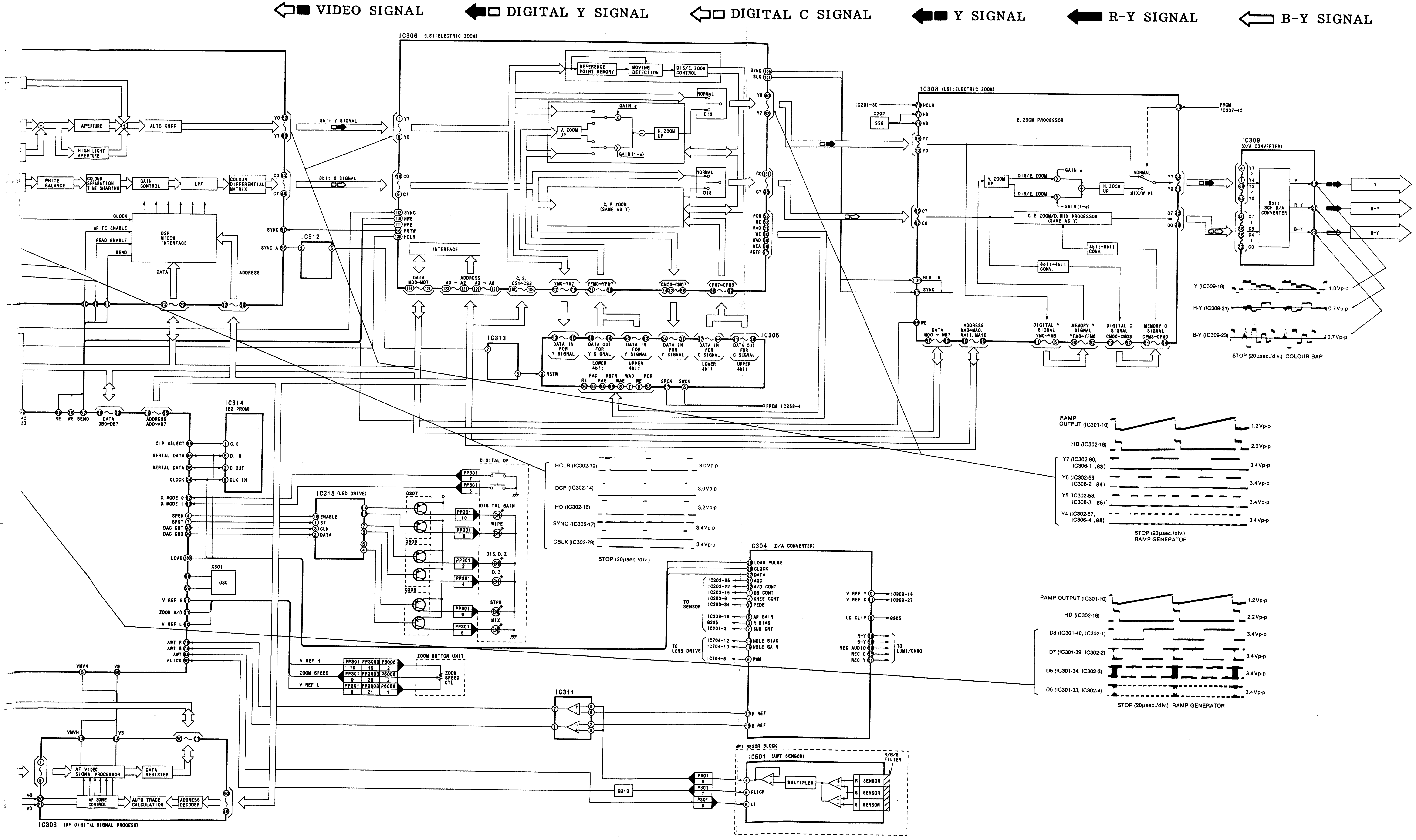

VIDEO SIGNAL
SENSOR
PROCESS
3.4Vp-p
22Vp-p
sec./div)
FROM EVR PP302- ⑲
IC201
(CCD PULSE GEN. & DRIVE)
43 SUB
42 SUB OUT
41 V4
40 V3
45 V2
46 V1
44 -8V (PT)
48 15V
4 9V
6 H2
7 H1
9 ϕR PULSE
VD (IC202-1)
3.4Vp-p
V4 (PP201-5)
8Vp-p (CKZ5)
V3 (PP201-4)
24Vp-p (CKZ4)
V2 (PP201-3)
8Vp-p (CKZ3)
V1 (PP201-2) (CKZ2)
24Vp-p
DIS OFF (10msec./div.)
3.2Vp-p
HD (IC202-48)
PP201-12 (CKZ12)
1.5Vp-p
SP1 (IC203-42)
3.2Vp-p
SP2 (IC203-41)
2.6Vp-p
STOP (20µsec./div.) GRAY SCALE
Q207
BUFFER
Q206
BUFFER
Q205
BUFFER
CS 17
CLOCK 16
DATA 22
SUB CONT 3
VD 34
HD 33
CLK 25
FH/2 35
ϕH CLEAR PULSE 30
2FCK 24
PRE BLK 26
(CO) SP1 13
(DS2) SP2 15
IC202 (SSG)
1 VD
48 HD
37 CLK
C SYNC 27
C BLK 26
TO IC302- ⑰
TO IC302- ⑲
TO IC302- ⑬
TO IC302- ⑫
TO IC306- ⑲
FL202
BPF
FL203
BPF
IC204
IC212
IC205
X201
IC307 (DSP/AF/DIS)
5 CS
98 CLOCK
99 DATA
D IN
95 94 100 96 85
IC314 (E²PROM)
2 D OUT
1 CS
6 CLK IN
5 DATA IN
IC304 (D/A)
27 DATA
26 CLOCK
25 LOAD
2 SUB CONTROL
32 A/D CONTROL
5 AP CONTROL
30 PEDESTAL CONTROL
1 OB CONTROL
31 AGC CONTROL
(A) (B) (C) (D) (E)
DATA/ADDRESS
IC203-2
0.7Vp-p
IC203-37
0.5Vp-p
IC203-5
3.0Vp-p
(B)
(A)
(D)
AGC OUT
TO EVR (PP302-20)
35 29 32 5 9 10 19 27 26 22 21
PRI BLK
CLAMP
γ-CONT
CLAMP
DL
γ
CLAMP
DL
DL
G. CTL
CLAMP
GAIN CTL
DC CONT
P. SEPA CPOB
P. SEPA CP2
V. REF4 1.8V
V. REF2 3.3V
V. REF1 1.3V
V. REF3
4 7 12 14 13 16
IC201-27
IC202-24
IC301-5
IC301-16
CDS OUT
TO EVR (PP302-5)
IC301
A/D, AF, DSP
IC302
Y/C DSP
IC306
E. ZOOM
IC309
D/A
10
R-Y
B-Y
Y
TO LUMI/CHRO

Next Page:
PROCESS Section

3-4. PROCESS BLOCK DIAGRAM

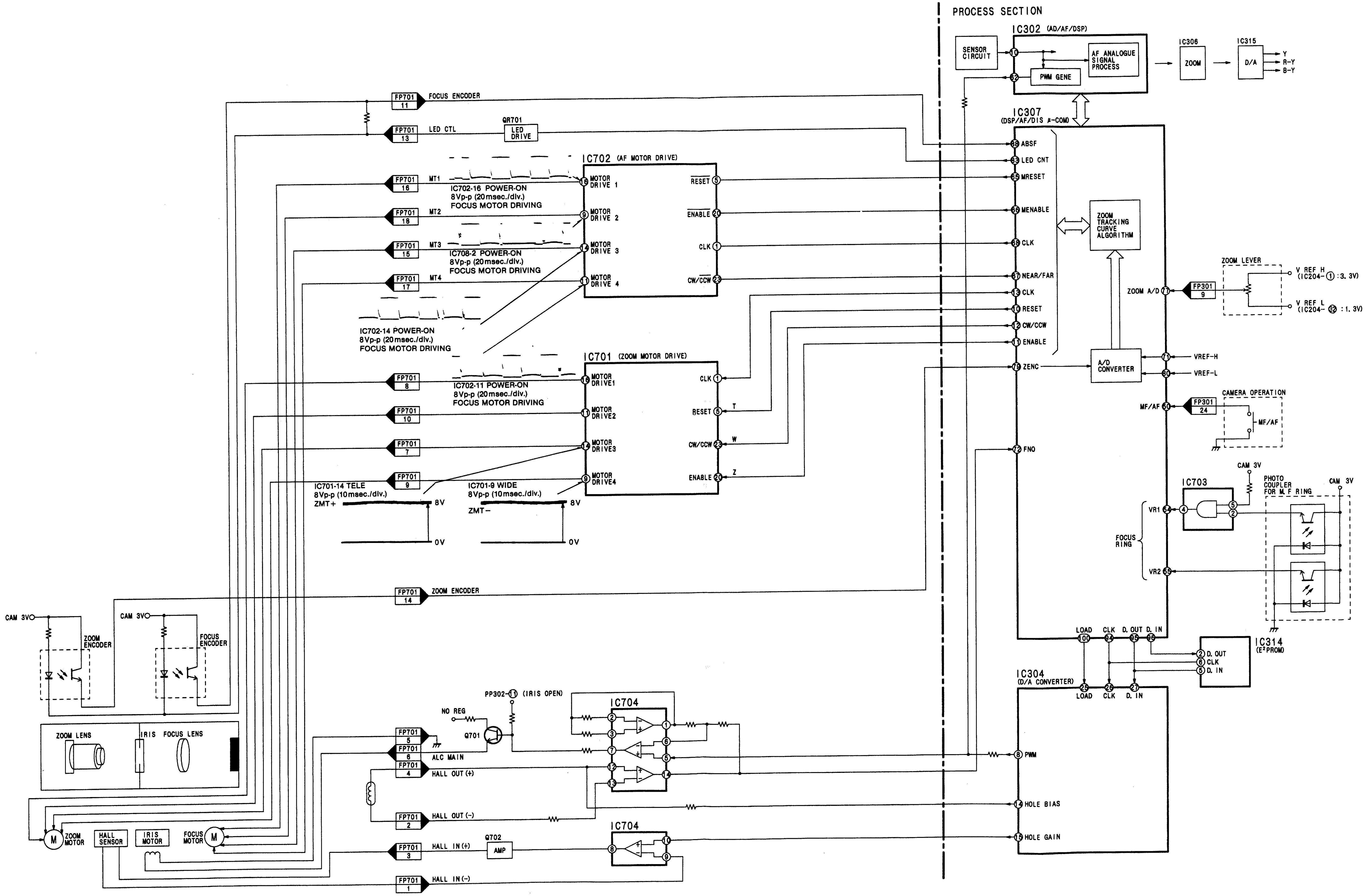


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SI
IC301 (9bit DIGITAL VIDEO SIGNAL)
A/D CONVERTER
TOP/BOTTOM SAMPLING COMPARATOR
TOP/BOTTOM ENCODER
TOP/BOTTOM DATA LATCH
IC203-21 VIDEO SIGNAL
IC208-4 AD CLOCK
CLK
V REF L1
V REF 3.3V
DIGITAL VIDEO SIGNAL (N0~N7)
IC302 (LSI:Y/C DIGITAL SIGNAL PROCESS)
AD0
AD8
1H DLY
1H DLY
LPF
H. APERTURE CIRCUIT
V. APERTURE CIRCUIT
APERTURE
HIGH LIGHT APERTURE
AUTO KNEE
LINE SELECT HOLDIT
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFERENTIAL MATRIX
DSP MICOM INTERFACE
CLOCK
WRITE ENABLE
READ ENABLE
BEND
DATA
ADDRESS
Y0
Y7
C0
C7
SYNC
SYNC A
8bit Y SIGNAL
8bit C SIGNAL
FROM SENSOR
IC201-30 HCLR
IC201-27 CPOB
IC201-35 FH2B
IC201-22 DATA
IC201-16 DCLK
IC202-1 VD
IC202-48 HD
IC202-27 SYNC
IC202-25 BLK
IC208-4 FCKA
#H CLEAR PULSE
DCP
FH/2
CLOCK
HD
VD
SYNC
BLK
IC312
IC306 (LSI:ELECTRIC ZOOM)
REFERENCE POINT MEMORY
MOVING DETECTION
DIS/E. ZOOM CONTROL
GAIN α
GAIN (1-α)
V. ZOOM UP
H. ZOOM UP
NORMAL
DIS
C. E ZOOM (SAME AS Y)
SYNC
BLK
Y0
Y7
C0
C7
SYNC
NWE
NRE
RSTW
HCLR
POR
RE
RAD
WE
WAD
WEA
RSTR
INTERFACE
DATA MD0~MD7
ADDRESS A0 ~ A2 A3 ~ A5
C.S. CS1~CS3
YM0~YM7
YFM0~YFM7
CM00~CM07
CFM7~CFM0
IC313
RSTW
IC305
DATA IN FOR Y SIGNAL
DATA OUT FOR Y SIGNAL LOWER 4bit
DATA IN FOR Y SIGNAL UPPER 4bit
DATA IN FOR Y SIGNAL
DATA IN FOR C SIGNAL LOWER 4bit
DATA OUT FOR C SIGNAL UPPER 4bit
RE RAD RAE RSTR WAD WAE WE POR
SRCK SWCK
FROM IC258-4
CAMERA OPERATION
SH/IRIS CONTROL
AE DIAL
LOW LIGHT
PORTRAIT
SPORTS
MANUAL
AUTO
SH/IR/BL
FADE
WB
AF/MF
FP301
<RENCF>
<RENCR>
<SH/IR/BL>
<FADE>
<WB>
<AF/MF>
<C. MODE 2>
<C. MODE 0>
<C. MODE 1>
IC307 (AF/DSP μCOM)
DAC SBT
DAC SBO
RE WE BEND
DATA DB0~DB7
ADDRESS AD0~AD7
SH/IR/BL
WB
AF/MF
FADE
C. MODE 0
C. MODE 1
C. MODE 2
RENCF
RENCR
MFRING1
MFRING2
ZMRST
ZMEN
FNO
ZMDIR
ZMCLK
ABSF
M RESET
M ENABLE
CW/CCW
M CLOCK
Z ENC
LED CONT
MF LED CONT
CIP SELECT
SERIAL DATA
SERIAL DATA
CLOCK
D. MODE 0
D. MODE 1
SPEN
SPST
DAC SBT
DAC SBO
LOAD
V REF H
ZOOM A/D
V REF L
AWT R
AWT B
AWT
FLICK
VMVH
VB
IC314 (E2 PROM)
C. S
D. IN
D. OUT
CLK IN
X301
OSC
IC315 (LED DRIVE)
ENABLE
ST
CLK
DATA
Q307
Q308
Q309
DIGITAL OP
PP301
DIGITAL GAIN
WIPE
DIS, D. Z
D. Z
STRB
MIX
M. FOCUS RING
P301
HCLR (IC302-12) 3.0Vp-p
DCP (IC302-14) 3.0Vp-p
HD (IC302-16) 3.2Vp-p
SYNC (IC302-17) 3.4Vp-p
CBLK (IC302-79) 3.4Vp-p
STOP (20μsec./div.)
IC304 (D/A CONVERTER)
LOAD PULSE
CLOCK
DATA
AGC
A/D CONT
OB CONT
KNEE CONT
PEDE
AP GAIN
R BIAS
SUB CNT
HOLE BIAS
HOLE GAIN
PWM
TO SENSOR
IC203-35
IC203-22
IC203-16
IC203-8
IC203-34
IC203-19
Q205
IC201-3
TO LENS DRIVE
IC704-12
IC704-10
IC704-5
R REF
B REF
V REF H
ZOOM SPEED
V REF L
FP301 FP3003 P6008
ZOOM BUTTON UNIT
ZOOM SPEED CTL
IC311
AWT SENSOR BLOCK
IC501 (AWT SENSOR)
MULTIPLEX
Q310
TO LENS DRIVE
LED CNT TO QR701
MF LED TO QR702
ZMRST TO IC701
ZMEN TO IC701
FNO TO IC704
ZMDIR TO IC701
ZMCLK TO IC701
ABSF FROM FP701-11
RESET TO IC702
ENABLE TO IC702
CW/CCW TO IC702
CLOCK TO IC702
VMVH
VB
AF VIDEO SIGNAL PROCESSOR
DATA RESISTER
AF ZONE CONTROL
AUTO TRACE CALCULATION
ADDRESS DECODER
FROM IC202 HD VD
IC303 (AF DIGITAL SIGNAL PROCESS)



VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGNAL
B-Y SIGNAL
APERTURE
HIGH LIGHT APERTURE
AUTO KNEE
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFERENTIAL MATRIX
CLOCK
WRITE ENABLE
READ ENABLE
BEND
DSP MICOM INTERFACE
DATA
ADDRESS
8bit Y SIGNAL
8bit C SIGNAL
IC306 (LSI:ELECTRIC ZOOM)
REFERENCE POINT MEMORY
MOVING DETECTION
DIS/E. ZOOM CONTROL
NORMAL
DIS
GAIN α
GAIN (1-α)
V. ZOOM UP
H. ZOOM UP
C. E ZOOM (SAME AS Y)
INTERFACE
DATA MD0~MD7
ADDRESS A0 ~ A2 A3 ~ A6
C. S. CS1~CS3
YM0~YM7
YFM0~YFM7
CM00~CM07
CFM7~CFM0
SYNC
BLK
IC312
IC313
RSTW
IC305
DATA IN FOR Y SIGNAL
DATA OUT FOR Y SIGNAL LOWER 4bit
DATA IN FOR Y SIGNAL UPPER 4bit
DATA IN FOR C SIGNAL
DATA IN FOR C SIGNAL LOWER 4bit
DATA OUT FOR C SIGNAL UPPER 4bit
RE RAE RAD RSTR WAE WAD WE POR
SRCK SWCK
FROM IC258-4
IC314 (E2 PROM)
C. S
D. IN
D. OUT
CLK IN
CIP SELECT
SERIAL DATA
CLOCK
D. MODE 0
D. MODE 1
SPEN
SPST
DAC SST
DAC SSO
LOAD
X301
OSC
V REF H
ZOOM A/D
V REF L
AWT R
AWT B
AWT
FLICK
VMVH
VB
RE WE BEND
DATA DB0~DB7
ADDRESS AD0~AD7
IC315 (LED DRIVE)
ENABLE
ST
CLK
DATA
DIGITAL OP
PP301
Q307
Q309
Q308
DIGITAL GAIN
WIPE
DIS, D, Z
D. Z
STRB
MIX
V REF H
ZOOM SPEED
V REF L
FP301 FP3003 P6006
ZOOM BUTTON UNIT
ZOOM SPEED CTL
IC311
HCLR (IC302-12) 3.0Vp-p
DCP (IC302-14) 3.0Vp-p
HD (IC302-16) 3.2Vp-p
SYNC (IC302-17) 3.4Vp-p
CBLK (IC302-79) 3.4Vp-p
STOP (20µsec./div.)
IC304 (D/A CONVERTER)
LOAD PULSE
CLOCK
DATA
AGC
A/D CONT
OB CONT
KNEE CONT
PEDE
AP GAIN
R BIAS
SUB CNT
HOLE BIAS
HOLE GAIN
PWM
R REF
B REF
TO SENSOR
TO LENS DRIVE
IC203-35
IC203-22
IC203-16
IC203-8
IC203-34
IC203-19
Q205
IC201-3
IC704-12
IC704-10
IC704-5
V REF Y
V REF C
IC309-16
IC309-27
LD CLIP
Q305
R-Y
B-Y
REC AUDIO
REC C
REC Y
TO LUMI/CHRO
AWT SESOR BLOCK
IC501 (AWT SENSOR)
R/G/B FILTER
MULTIPLEX
R SENSOR
G SENSOR
B SENSOR
FLICK
LI
P301
Q310
IC303 (AF DIGITAL SIGNAL PROCESS)
AF VIDEO SIGNAL PROCESSOR
DATA RESISTER
AF ZONE CONTROL
AUTO TRACE CALCULATION
ADDRESS DECODER
HD
VD
IC308 (LSI:ELECTRIC ZOOM)
IC201-30
IC202
SSG
HCLR
HD
VD
FROM IC307-40
E. ZOOM PROCESSOR
DIS/E. ZOOM
GAIN α
GAIN (1-α)
MIX/WIPE
C. E ZOOM/D. MIX PROCESSOR (SAME AS Y)
4bit-8bit CONV.
8bit-4bit CONV.
BLK IN
SYNC
WE
DATA MD0 ~ MD7
ADDRESS MA3~MA0, MA11, MA10
DIGITAL Y SIGNAL YM0~YM8
MEMORY Y SIGNAL YFM0~YFM8
DIGITAL C SIGNAL CM00~CM03
MEMORY C SIGNAL CFM3~CFM0
IC309 (D/A CONVERTER)
8bit 3CH D/A CONVERTER
Y
R-Y
B-Y
Y (IC309-18) 1.0Vp-p
R-Y (IC309-21) 0.7Vp-p
B-Y (IC309-23) 0.7Vp-p
STOP (20µsec./div.) COLOUR BAR
RAMP OUTPUT (IC301-10) 1.2Vp-p
HD (IC302-16) 2.2Vp-p
Y7 (IC302-60, IC306-1, 83) 3.4Vp-p
Y6 (IC302-59, IC306-2, 84) 3.4Vp-p
Y5 (IC302-58, IC306-3, 85) 3.4Vp-p
Y4 (IC302-57, IC306-4, 86) 3.4Vp-p
STOP (20µsec./div.) RAMP GENERATOR
RAMP OUTPUT (IC301-10) 1.2Vp-p
HD (IC302-16) 2.2Vp-p
D8 (IC301-40, IC302-1) 3.4Vp-p
D7 (IC301-39, IC302-2) 3.4Vp-p
D6 (IC301-34, IC302-3) 3.4Vp-p
D5 (IC301-33, IC302-4) 3.4Vp-p
STOP (20µsec./div.) RAMP GENERATOR

3-5. LENS DRIVE BLOCK DIAGRAM


IC702-16 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING

IC708-2 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING

IC702-14 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING

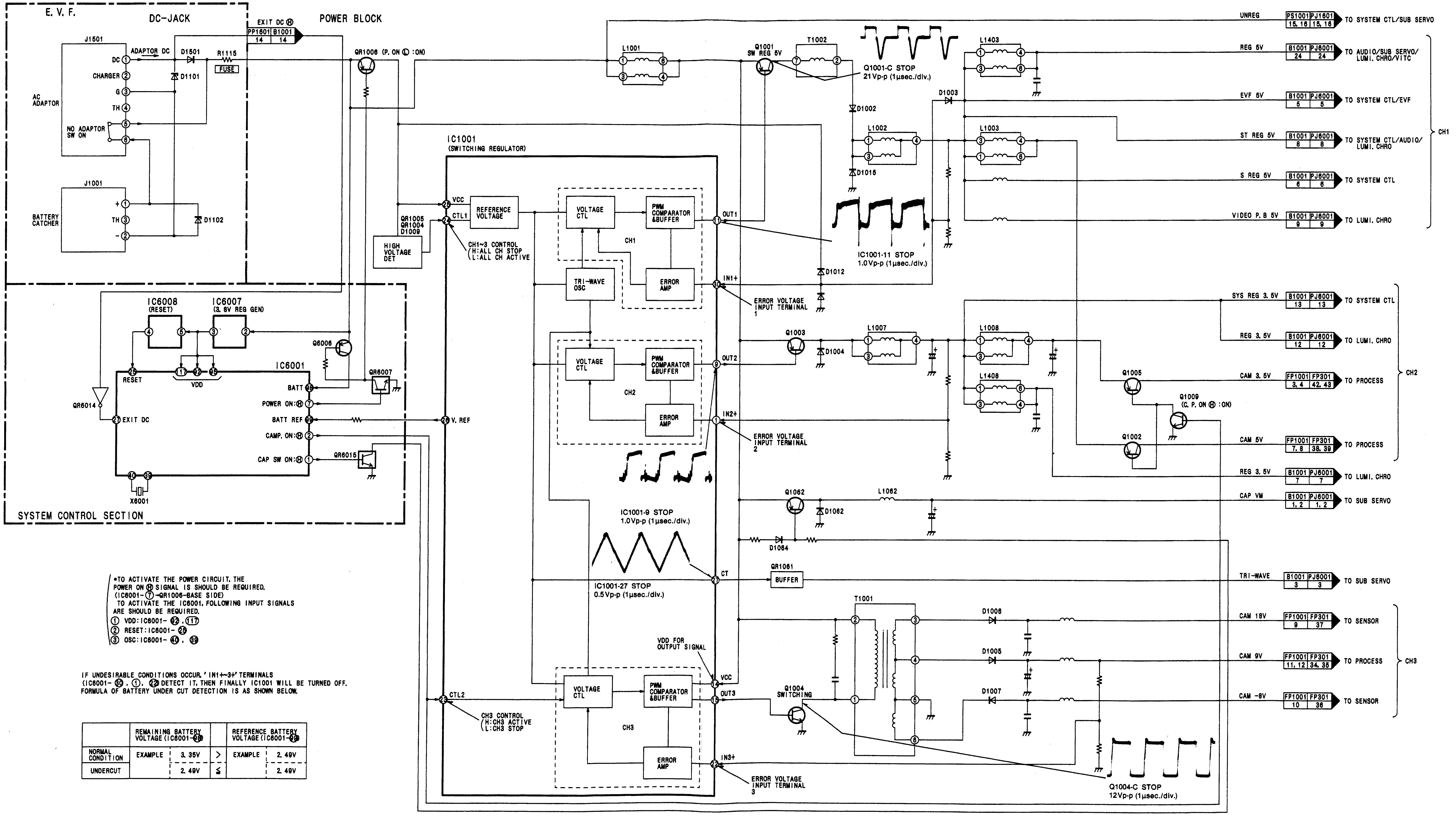
IC702-11 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING

IC701-14 TELE
8Vp-p (10msec./div.)
ZMT+

IC701-9 WIDE
8Vp-p (10msec./div.)
ZMT−

PROCESS SECTION
IC302 (AD/AF/DSP)
SENSOR CIRCUIT
AF ANALOGUE SIGNAL PROCESS
PWM GENE
IC306
ZOOM
IC315
D/A
Y
R-Y
B-Y
IC307 (DSP/AF/DIS μ-COM)
88 ABSF
83 LED CNT
65 MRESET
66 MENABLE
68 CLK
67 NEAR/FAR
13 CLK
10 RESET
12 CW/CCW
11 ENABLE
79 ZENC
72 FNO
ZOOM TRACKING CURVE ALGORITHM
A/D CONVERTER
ZOOM A/D 77
71 VREF-H
80 VREF-L
MF/AF 60
ZOOM LEVER
V REF H (IC204-① :3. 3V)
V REF L (IC204-㉜ :1. 3V)
FP301 9
FP301 24
CAMERA OPERATION
MF/AF
CAM 3V
IC703
PHOTO COUPLER FOR M. F RING
FOCUS RING
VR1 54
VR2 55
LOAD 100
CLK 94
D. OUT 95
D. IN 96
IC314 (E²PROM)
2 D. OUT
6 CLK
5 D. IN
IC304 (D/A CONVERTER)
25 LOAD
26 CLK
27 D. IN
8 PWM
14 HOLE BIAS
15 HOLE GAIN
FP701 11 FOCUS ENCODER
FP701 13 LED CTL
QR701 LED DRIVE
IC702 (AF MOTOR DRIVE)
FP701 16 MT1
FP701 18 MT2
FP701 15 MT3
FP701 17 MT4
16 MOTOR DRIVE 1
9 MOTOR DRIVE 2
14 MOTOR DRIVE 3
11 MOTOR DRIVE 4
RESET 5
ENABLE 20
CLK 1
CW/CCW 23
IC701 (ZOOM MOTOR DRIVE)
FP701 8
FP701 10
FP701 7
FP701 9
16 MOTOR DRIVE1
11 MOTOR DRIVE2
14 MOTOR DRIVE3
9 MOTOR DRIVE4
CLK 1
RESET 5
CW/CCW 23
ENABLE 20
T
W
Z
8V
0V
8V
0V
FP701 14 ZOOM ENCODER
CAM 3V
ZOOM ENCODER
CAM 3V
FOCUS ENCODER
ZOOM LENS
IRIS
FOCUS LENS
ZOOM MOTOR
HALL SENSOR
IRIS MOTOR
FOCUS MOTOR
PP302-⑪ (IRIS OPEN)
NO REG
Q701
FP701 5
FP701 6 ALC MAIN
FP701 4 HALL OUT (+)
FP701 2 HALL OUT (−)
FP701 3 HALL IN (+)
FP701 1 HALL IN (−)
Q702 AMP
IC704
IC704

3-6. POWER BLOCK DIAGRAM


E. V. F.
DC-JACK
POWER BLOCK
EXIT DC Ⓗ
PP1601 B1001 14 14
J1501
DC ①
CHARGER ②
G ③
TH ④
NO ADAPTOR SW ON
⑤
⑥
AC ADAPTOR
ADAPTOR DC
D1501
R1115
FUSE
D1101
J1001
BATTERY CATCHER
+ ①
TH ③
- ②
D1102
QR1006 (P. ON Ⓛ :ON)
QR1005
QR1004
D1009
HIGH VOLTAGE DET
IC1001
(SWITCHING REGULATOR)
VCC
CTL1
REFERENCE VOLTAGE
CH1~3 CONTROL
(H:ALL CH STOP
L:ALL CH ACTIVE
VOLTAGE CTL
PWM COMPARATOR &BUFFER
CH1
TRI-WAVE OSC
ERROR AMP
OUT1
IN1+
ERROR VOLTAGE INPUT TERMINAL 1
CH2
OUT2
IN2+
ERROR VOLTAGE INPUT TERMINAL 2
V. REF
CT
CH3
VCC
OUT3
IN3+
CTL2
CH3 CONTROL
(H:CH3 ACTIVE
L:CH3 STOP
VDD FOR OUTPUT SIGNAL
ERROR VOLTAGE INPUT TERMINAL 3
IC1001-9 STOP
1.0Vp-p (1μsec./div.)
IC1001-27 STOP
0.5Vp-p (1μsec./div.)
IC1001-11 STOP
1.0Vp-p (1μsec./div.)
Q1001-C STOP
21Vp-p (1μsec./div.)
Q1004-C STOP
12Vp-p (1μsec./div.)
L1001
Q1001 SW REG 5V
T1002
D1002
D1003
L1002
D1015
D1012
L1403
L1003
Q1003
D1004
L1007
L1008
L1408
Q1005
Q1009 (C. P. ON Ⓗ :ON)
Q1002
Q1062
D1062
L1062
D1064
QR1061
BUFFER
T1001
Q1004 SWITCHING
D1006
D1005
D1007
UNREG
PS1001 PJ1601 15, 16 15, 16
TO SYSTEM CTL/SUB SERVO
REG 5V
B1001 PJ6001 24 24
TO AUDIO/SUB SERVO/ LUMI. CHRO/VITC
EVF 5V
B1001 PJ6001 5 5
TO SYSTEM CTL/EVF
ST REG 5V
B1001 PJ6001 8 8
TO SYSTEM CTL/AUDIO/ LUMI. CHRO
S REG 5V
B1001 PJ6001 6 6
TO SYSTEM CTL
VIDEO P. B 5V
B1001 PJ6001 9 9
TO LUMI. CHRO
CH1
SYS REG 3. 5V
B1001 PJ6001 13 13
TO SYSTEM CTL
REG 3. 5V
B1001 PJ6001 12 12
TO LUMI. CHRO
CAM 3. 5V
FP1001 FP301 3, 4 42, 43
TO PROCESS
CAM 5V
FP1001 FP301 7, 8 38, 39
TO PROCESS
CH2
REG 3. 5V
B1001 PJ6001 7 7
TO LUMI. CHRO
CAP VM
B1001 PJ6001 1, 2 1, 2
TO SUB SERVO
TRI-WAVE
B1001 PJ6001 3 3
TO SUB SERVO
CAM 18V
FP1001 FP301 9 37
TO SENSOR
CAM 9V
FP1001 FP301 11, 12 34, 35
TO PROCESS
CAM -8V
FP1001 FP301 10 36
TO SENSOR
CH3
IC6008 (RESET)
IC6007 (3. 8V REG GEN)
Q6006
QR6007
IC6001
RESET
VDD
BATT
POWER ON:Ⓗ ⑦
BATT REF
CAMP. ON:Ⓗ ②
CAP SW ON:Ⓗ ①
QR6015
QR6014
EXIT DC
X6001
SYSTEM CONTROL SECTION

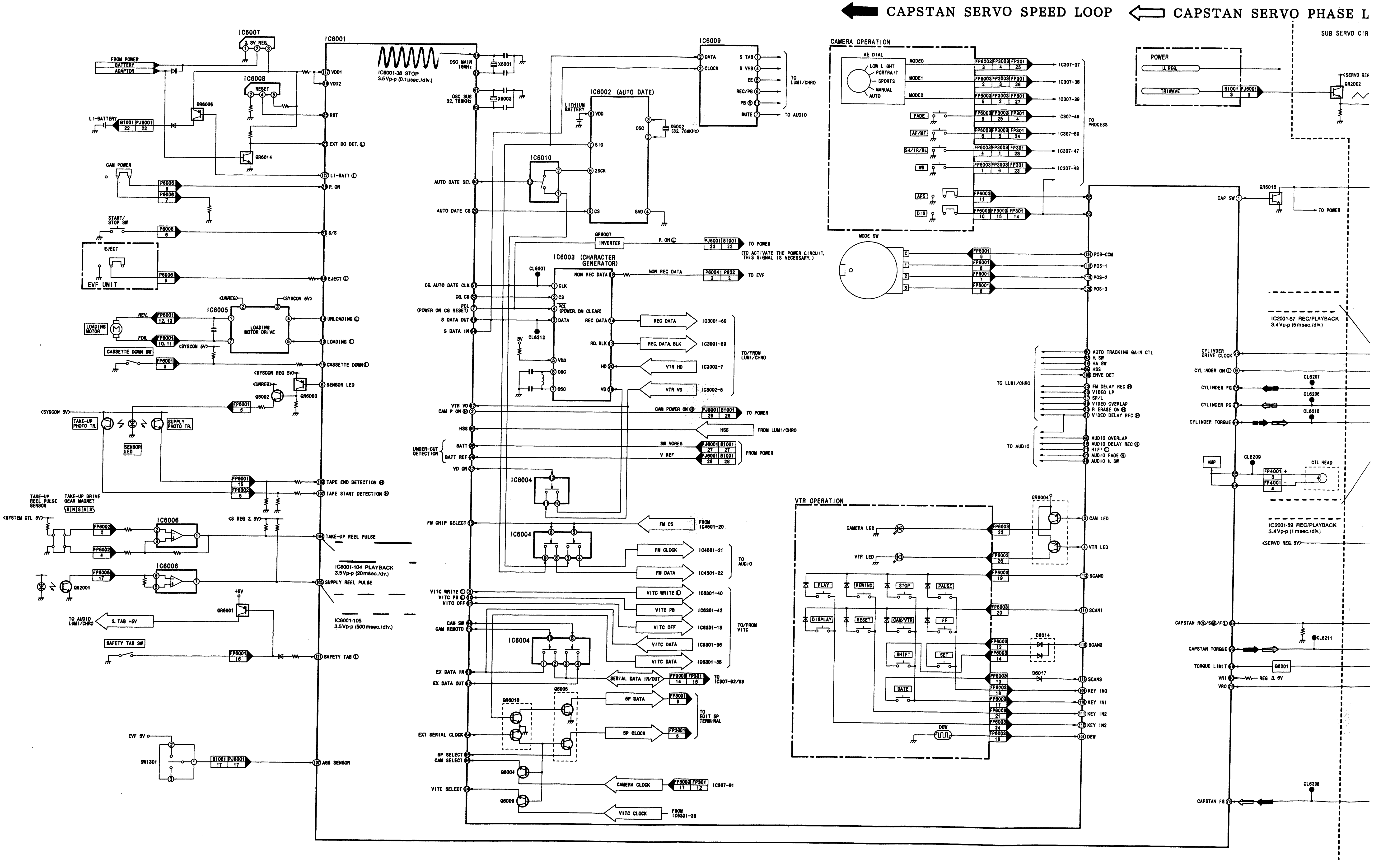
•TO ACTIVATE THE POWER CIRCUIT, THE POWER ON Ⓗ SIGNAL IS SHOULD BE REQUIRED. (IC6001-⑦→QR1006-BASE SIDE)
TO ACTIVATE THE IC6001, FOLLOWING INPUT SIGNALS ARE SHOULD BE REQUIRED.
① VDD: IC6001- (92), (117)
② RESET: IC6001- ㉕
③ OSC: IC6001- ㊵, ㊴

IF UNDESIRABLE CONDITIONS OCCUR, 'IN1+~3+' TERMINALS (IC6001- ㉚, ①, ㉒) DETECT IT, THEN FINALLY IC1001 WILL BE TURNED OFF. FORMULA OF BATTERY UNDER CUT DETECTION IS AS SHOWN BELOW.

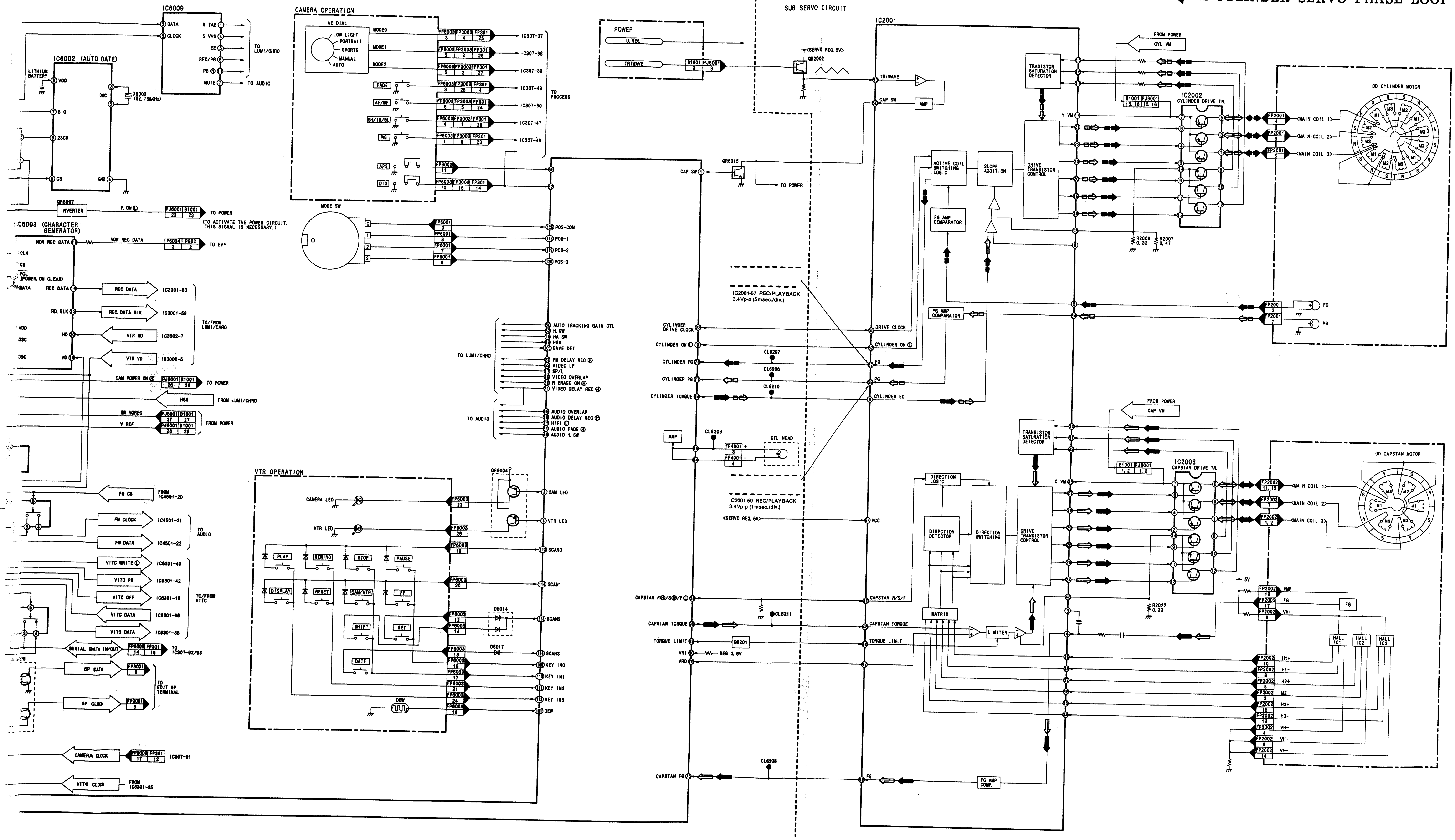
	REMAINING BATTERY VOLTAGE (IC6001-(98))			REFERENCE BATTERY VOLTAGE (IC6001-(99))	
NORMAL CONDITION	EXAMPLE	3. 35V	>	EXAMPLE	2. 49V
UNDERCUT		2. 49V	≦		2. 49V

Back Page:
LENS DRIVE Section

3-7. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

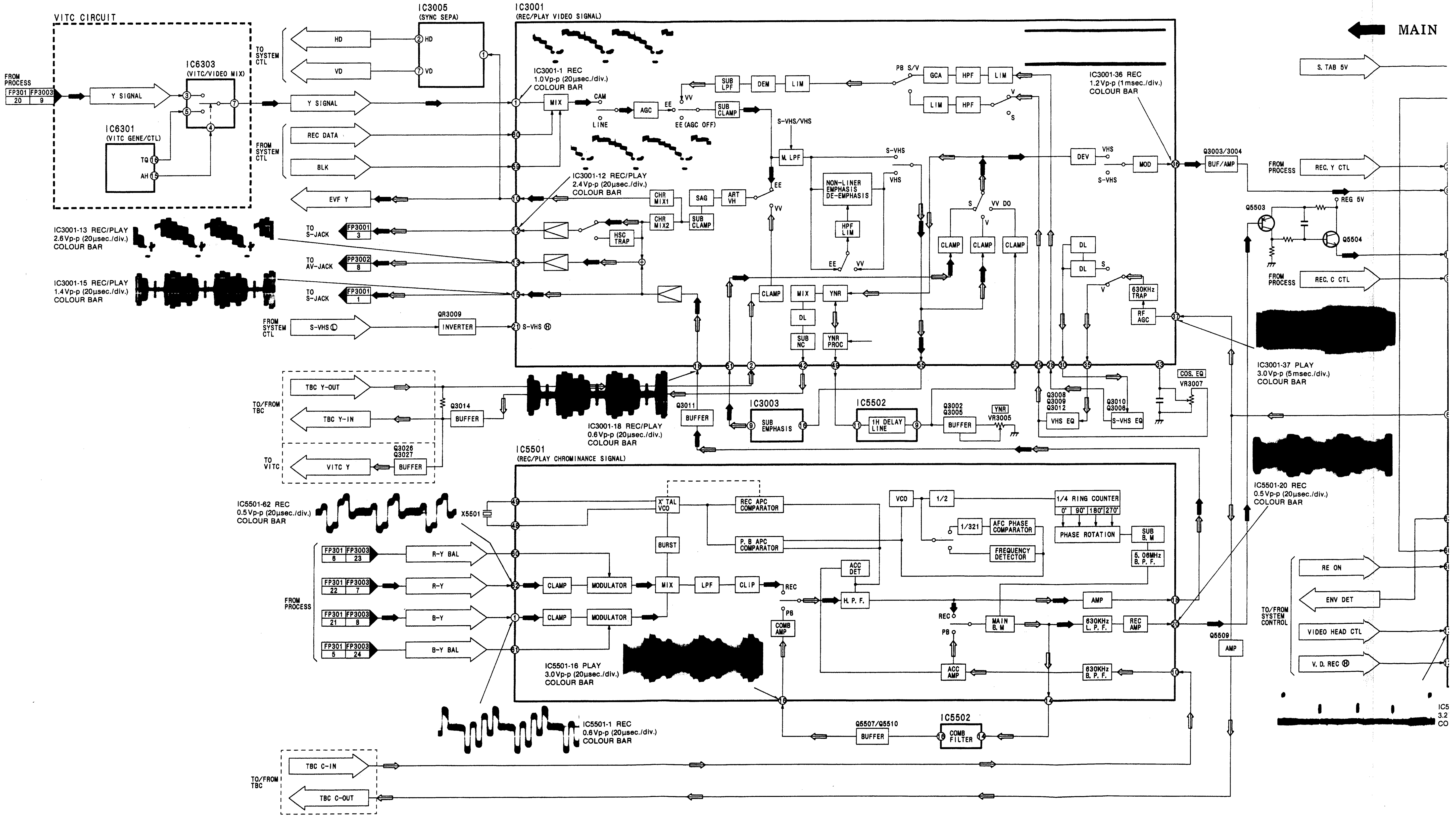

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE L
SUB SERVO CIR
IC6007
3.5V REG.
IC6001
IC6008
RESET
FROM POWER BATTERY ADAPTOR
LI-BATTERY
QR6006
QR6014
VDD1
VDD2
RST
EXT DC DET.
LI-BATT
P. ON
S/S
EJECT
UNLOADING
LOADING
CASSETTE DOWN
SENSOR LED
TAPE END DETECTION
TAPE START DETECTION
TAKE-UP REEL PULSE
SUPPLY REEL PULSE
SAFETY TAB
AGS SENSOR
CAM POWER
START/STOP SW
EJECT
EVF UNIT
IC6005
LOADING MOTOR DRIVE
LOADING MOTOR
CASSETTE DOWN SW
TAKE-UP PHOTO TR.
SUPPLY PHOTO TR.
SENSOR LED
TAKE-UP REEL PULSE SENSOR
TAKE-UP DRIVE GEAR MAGNET
IC6006
QR2001
QR6001
TO AUDIO LUMI/CHRO
S. TAB +5V
SAFETY TAB SW
EVF 5V
SW1301
IC6001-38 STOP 3.5Vp-p (0.1μsec./div.)
OSC MAIN 16MHz
OSC SUB 32.768KHz
X6001
X6003
IC6001-104 PLAYBACK 3.5Vp-p (20msec./div.)
IC6001-105 3.5Vp-p (500msec./div.)
AUTO DATE SEL
AUTO DATE CS
CG AUTO DATE CLK
CG CS
PCL (POWER ON CG RESET)
S DATA OUT
S DATA IN
VTR VD
CAM P ON
HSS
BATT
BATT REF
UNDER-CUT DETECTION
VD ON
FM CHIP SELECT
VITC WRITE
VITC PB
VITC OFF
CAM SW
CAM REMOTO
EX DATA IN
EX DATA OUT
EXT SERIAL CLOCK
5P SELECT
CAM SELECT
VITC SELECT
IC6009
DATA
CLOCK
S TAB
S VHS
EE
REC/PB
PB
MUTE
TO LUMI/CHRO
TO AUDIO
IC6002 (AUTO DATE)
LITHIUM BATTERY
X6002 (32.768KHz)
IC6010
SIO
2SCK
CS
GND
QR6007
INVERTER
P. ON
TO POWER
(TO ACTIVATE THE POWER CIRCUIT, THIS SIGNAL IS NECESSARY.)
IC6003 (CHARACTER GENERATOR)
NON REC DATA
TO EVF
REC DATA
REC. DATA BLK
VTR HD
VTR VD
IC3001-60
IC3001-59
IC3002-7
IC3002-5
TO/FROM LUMI/CHRO
CAM POWER ON
FROM LUMI/CHRO
SW NOREG
V REF
FROM POWER
IC6004
FM CS
FM CLOCK
FM DATA
FROM IC4501-20
IC4501-21
IC4501-22
TO AUDIO
VITC WRITE
VITC PB
VITC OFF
VITC DATA
IC6301-40
IC6301-42
IC6301-18
IC6301-36
IC6301-35
TO/FROM VITC
SERIAL DATA IN/OUT
TO IC307-92/93
QR6010
Q6005
5P DATA
5P CLOCK
TO EDIT 5P TERMINAL
Q6004
Q6009
CAMERA CLOCK
IC307-91
VITC CLOCK
FROM IC6301-35
CAMERA OPERATION
AE DIAL
LOW LIGHT
PORTRAIT
SPORTS
MANUAL
AUTO
MODE0
MODE1
MODE2
FADE
AF/MF
SH/IR/BL
WB
APS
DIS
IC307-37
IC307-38
IC307-39
IC307-49
IC307-50
IC307-47
IC307-48
TO PROCESS
MODE SW
POS-COM
POS-1
POS-2
POS-3
TO LUMI/CHRO
AUTO TRACKING GAIN CTL
H. SW
HA SW
HSS
ENVE DET
FM DELAY REC
VIDEO LP
SP/L
VIDEO OVERLAP
R ERASE ON
VIDEO DELAY REC
AUDIO OVERLAP
AUDIO DELAY REC
HIFI
AUDIO FADE
AUDIO H. SW
VTR OPERATION
CAMERA LED
VTR LED
PLAY
REWIND
STOP
PAUSE
DISPLAY
RESET
CAM/VTR
FF
SHIFT
SET
DATE
DEW
QR6004
D6014
D6017
CAM LED
VTR LED
SCAN0
SCAN1
SCAN2
SCAN3
KEY IN0
KEY IN1
KEY IN2
KEY IN3
DEW
POWER
U. REG
TRIWAVE
<SERVO REG
QR2002
QR6015
CAP SW
TO POWER
IC2001-57 REC/PLAYBACK 3.4Vp-p (5msec./div.)
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
CL6207
CL6206
CL6210
AMP
CL6209
CTL HEAD
IC2001-59 REC/PLAYBACK 3.4Vp-p (1msec./div.)
<SERVO REG 5V>
CAPSTAN R/S/F
CAPSTAN TORQUE
TORQUE LIMIT
VRI
VRO
REG 3.6V
Q6201
CL6211
CL6208
CAPSTAN FG

CAPSTAN SERVO SPEED LOOP   CAPSTAN SERVO PHASE LOOP   CYLINDER SERVO SPEED LOOP   CYLINDER SERVO PHASE LOOP

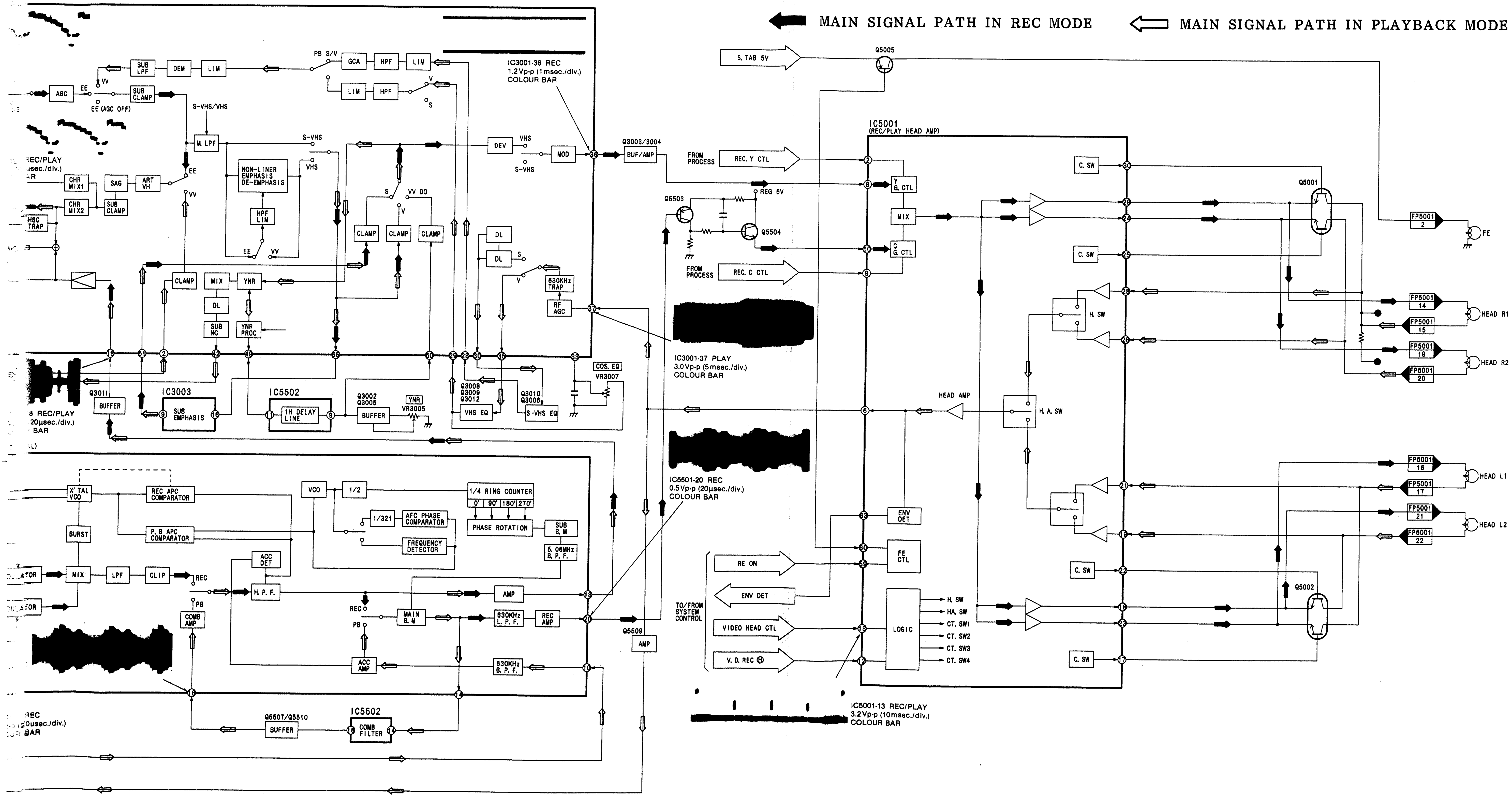

IC6009
DATA
CLOCK
S TAB
S VHS
EE
REC/PB
PB
MUTE
TO LUMI/CHRO
TO AUDIO
IC6002 (AUTO DATE)
LITHIUM BATTERY
VDD
OSC
X6002 (32.768KHz)
SIO
2SCK
CS
GND
QR6007
INVERTER
P. ON
TO POWER
(TO ACTIVATE THE POWER CIRCUIT, THIS SIGNAL IS NECESSARY.)
IC6003 (CHARACTER GENERATOR)
NON REC DATA
TO EVF
CLK
CS
PCL (POWER ON CLEAR)
DATA
REC DATA
REC. DATA BLK
VTR HD
VTR VD
IC3001-60
IC3001-59
IC3002-7
IC3002-5
TO/FROM LUMI/CHRO
CAM POWER ON
HSS
FROM LUMI/CHRO
SW NOREG
V REF
FROM POWER
FM CS
FM CLOCK
FM DATA
FROM IC4501-20
IC4501-21
IC4501-22
TO AUDIO
VITC WRITE
VITC PB
VITC OFF
VITC DATA
IC6301-40
IC6301-42
IC6301-18
IC6301-36
IC6301-35
TO/FROM VITC
SERIAL DATA IN/OUT
TO IC307-92/93
5P DATA
5P CLOCK
TO EDIT 5P TERMINAL
CAMERA CLOCK
IC307-91
VITC CLOCK
FROM IC6301-35
CAMERA OPERATION
AE DIAL
LOW LIGHT
PORTRAIT
SPORTS
MANUAL
AUTO
MODE0
MODE1
MODE2
FADE
AF/MF
SH/IR/BL
WB
APS
DIS
IC307-37
IC307-38
IC307-39
IC307-49
IC307-50
IC307-47
IC307-48
TO PROCESS
MODE SW
POS-COM
POS-1
POS-2
POS-3
AUTO TRACKING GAIN CTL
H. SW
HA SW
HSS
ENVE DET
FM DELAY REC
VIDEO LP
SP/L
VIDEO OVERLAP
R ERASE ON
VIDEO DELAY REC
TO LUMI/CHRO
AUDIO OVERLAP
AUDIO DELAY REC
HIFI
AUDIO FADE
AUDIO H. SW
TO AUDIO
VTR OPERATION
CAMERA LED
VTR LED
QR6004
CAM LED
VTR LED
PLAY
REWIND
STOP
PAUSE
DISPLAY
RESET
CAM/VTR
FF
SHIFT
SET
DATE
D6014
D6017
DEW
SCAN0
SCAN1
SCAN2
SCAN3
KEY IN0
KEY IN1
KEY IN2
KEY IN3
DEW
POWER
U. REG
TRIWAVE
SUB SERVO CIRCUIT
<SERVO REG. 5V>
QR2002
QR6015
CAP SW
TO POWER
IC2001-57 REC/PLAYBACK
3.4Vp-p (5msec./div.)
IC2001-59 REC/PLAYBACK
3.4Vp-p (1msec./div.)
<SERVO REG. 5V>
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
CL6207
CL6208
CL6210
AMP
CL6209
CTL HEAD
CAPSTAN R/S/F
CL6211
CAPSTAN TORQUE
TORQUE LIMIT
Q6201
VRI
VRO
REG 3.6V
CL6206
CAPSTAN FG
IC2001
TRIWAVE
CAP SW
AMP
DRIVE CLOCK
CYLINDER ON
FG
PG
CYLINDER EC
VCC
CAPSTAN R/S/F
CAPSTAN TORQUE
TORQUE LIMIT
FG
TRANSISTOR SATURATION DETECTOR
ACTIVE COIL SWITCHING LOGIC
SLOPE ADDITION
DRIVE TRANSISTOR CONTROL
FG AMP COMPARATOR
PG AMP COMPARATOR
Y VM
R2008 0.33
R2007 0.47
FROM POWER
CYL VM
IC2002
CYLINDER DRIVE TR.
DD CYLINDER MOTOR
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
FG
PG
FROM POWER
CAP VM
TRANSISTOR SATURATION DETECTOR
DIRECTION LOGIC
DIRECTION DETECTOR
DIRECTION SWITCHING
DRIVE TRANSISTOR CONTROL
MATRIX
LIMITER
FG AMP COMP.
C VM
IC2003
CAPSTAN DRIVE TR.
R2022 0.33
DD CAPSTAN MOTOR
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
5V
VMR
FG
VH+
HALL IC1
HALL IC2
HALL IC3
H1+
H1-
H2+
H2-
H3+
H3-
VH-
VH-
VH-

Next Page:
LUMI/CHRO & HA Section

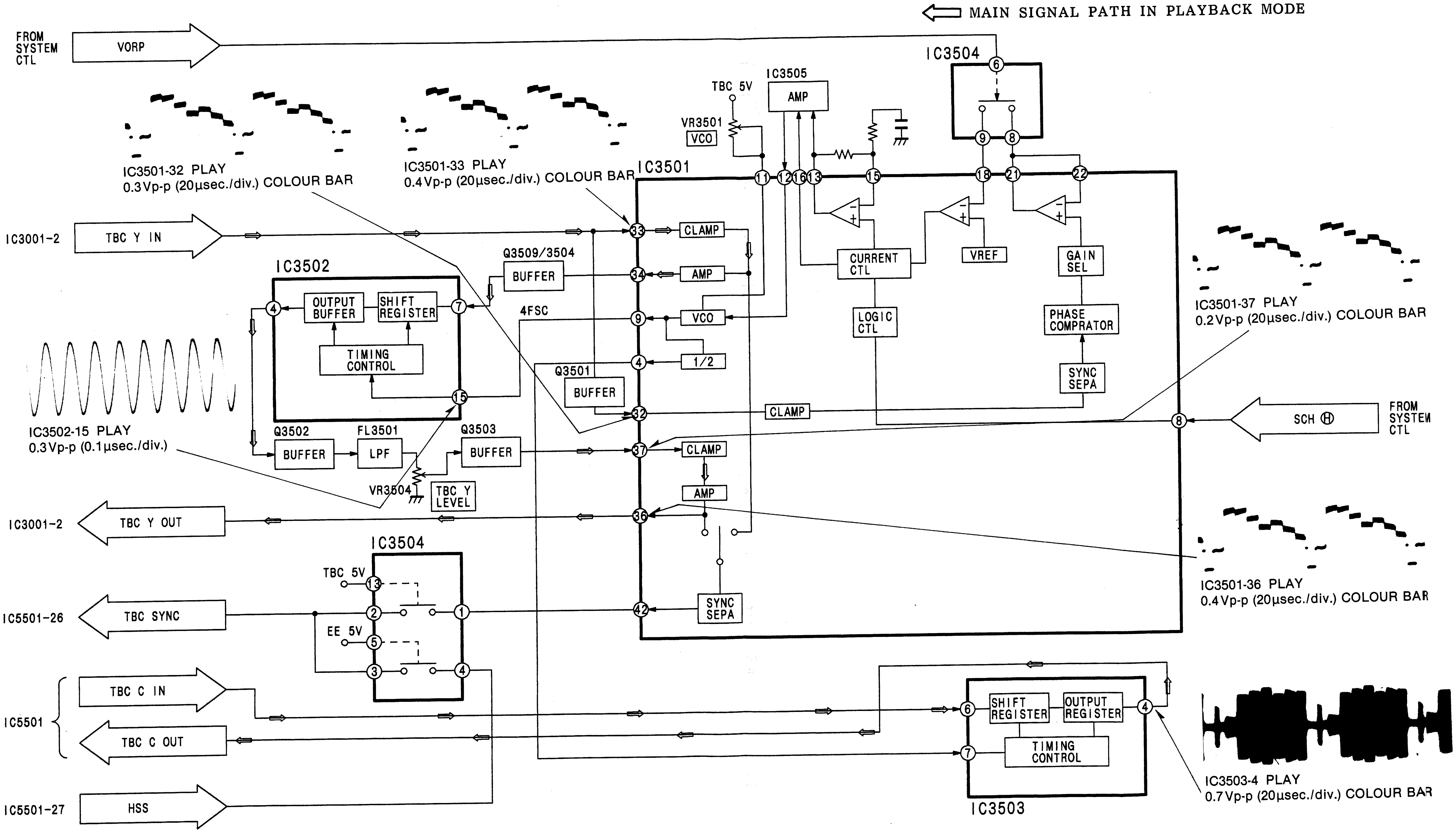
3-8. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM


VITC CIRCUIT
FROM PROCESS
FP301 FP3003 20 9
Y SIGNAL
IC6303 (VITC/VIDEO MIX)
IC6301 (VITC GENE/CTL)
TQ
AH
TO SYSTEM CTL
HD
VD
IC3005 (SYNC SEPA)
IC3001 (REC/PLAY VIDEO SIGNAL)
FROM SYSTEM CTL
REC DATA
BLK
EVF Y
TO S-JACK
TO AV-JACK
FP3001 3
PP3002 8
FP3001 1
S-VHS Ⓛ
QR3009 INVERTER
S-VHS Ⓗ
IC3001-1 REC 1.0Vp-p (20μsec./div.) COLOUR BAR
IC3001-12 REC/PLAY 2.4Vp-p (20μsec./div.) COLOUR BAR
IC3001-13 REC/PLAY 2.6Vp-p (20μsec./div.) COLOUR BAR
IC3001-15 REC/PLAY 1.4Vp-p (20μsec./div.) COLOUR BAR
MIX
CAM
LINE
AGC
EE
VV
EE (AGC OFF)
SUB LPF
SUB CLAMP
DEM
LIM
PB S/V
GCA
HPF
LIM
S-VHS/VHS
M. LPF
S-VHS
VHS
NON-LINER EMPHASIS DE-EMPHASIS
HPF LIM
CHR MIX1
CHR MIX2
SAG
ART VH
SUB CLAMP
HSC TRAP
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
S
VV DO
V
DEV
MOD
DL
630KHz TRAP
RF AGC
IC3001-36 REC 1.2Vp-p (1msec./div.) COLOUR BAR
Q3003/3004 BUF/AMP
MAIN
S. TAB 5V
FROM PROCESS
REC. Y CTL
REC. C CTL
REG 5V
Q5503
Q5504
IC3001-37 PLAY 3.0Vp-p (5msec./div.) COLOUR BAR
COS. EQ
VR3007
TO/FROM TBC
TBC Y-OUT
TBC Y-IN
Q3014 BUFFER
TO VITC
VITC Y
Q3026 Q3027 BUFFER
IC3001-18 REC/PLAY 0.6Vp-p (20μsec./div.) COLOUR BAR
Q3011 BUFFER
IC3003 SUB EMPHASIS
IC5502 1H DELAY LINE
Q3002 Q3005 BUFFER
YNR VR3005
Q3008 Q3009 Q3012 VHS EQ
Q3010 Q3006 S-VHS EQ
IC5501-20 REC 0.5Vp-p (20μsec./div.) COLOUR BAR
IC5501 (REC/PLAY CHROMINANCE SIGNAL)
IC5501-62 REC 0.5Vp-p (20μsec./div.) COLOUR BAR
X5501
X'TAL VCO
BURST
REC APC COMPARATOR
P. B APC COMPARATOR
VCO
1/2
1/321
AFC PHASE COMPARATOR
FREQUENCY DETECTOR
1/4 RING COUNTER
0° 90° 180° 270°
PHASE ROTATION
SUB B. M
5. 06MHz B. P. F.
FP301 FP3003 6 23 R-Y BAL
FP301 FP3003 22 7 R-Y
FP301 FP3003 21 8 B-Y
FP301 FP3003 5 24 B-Y BAL
CLAMP
MODULATOR
MIX
LPF
CLIP
REC
PB
ACC DET
H. P. F.
COMB AMP
AMP
MAIN B. M
630KHz L. P. F.
REC AMP
ACC AMP
630KHz B. P. F.
Q5509 AMP
IC5501-16 PLAY 3.0Vp-p (20μsec./div.) COLOUR BAR
IC5501-1 REC 0.6Vp-p (20μsec./div.) COLOUR BAR
Q5507/Q5510 BUFFER
IC5502 COMB FILTER
TBC C-IN
TBC C-OUT
TO/FROM SYSTEM CONTROL
RE ON
ENV DET
VIDEO HEAD CTL
V. D. REC Ⓗ

GRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
AGC
EE
VV
EE (AGC OFF)
SUB LPF
DEM
LIM
SUB CLAMP
PB S/V
GCA
HPF
LIM
LIM
HPF
V
S
S-VHS/VHS
M. LPF
EE
VV
CHR MIX1
CHR MIX2
SAG
SUB CLAMP
ART VH
HSC TRAP
NON-LINER EMPHASIS DE-EMPHASIS
HPF LIM
S-VHS
VHS
EE
VV
DEV
VHS
S-VHS
MOD
IC3001-36 REC
1.2Vp-p (1msec./div.)
COLOUR BAR
S
VV DO
V
CLAMP
CLAMP
CLAMP
DL
DL
S
V
630KHz TRAP
RF AGC
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
Q3011
BUFFER
IC3003
SUB EMPHASIS
IC5502
1H DELAY LINE
Q3002
Q3005
BUFFER
YNR
VR3005
Q3008
Q3009
Q3012
VHS EQ
Q3010
Q3006
S-VHS EQ
COS. EQ
VR3007
8 REC/PLAY
20µsec./div.)
BAR
REC/PLAY
sec./div.)
AR
Q3003/3004
BUF/AMP
IC3001-37 PLAY
3.0Vp-p (5msec./div.)
COLOUR BAR
X' TAL VCO
REC APC COMPARATOR
BURST
P. B APC COMPARATOR
MIX
LPF
CLIP
REC
PB
COMB AMP
ACC DET
H. P. F.
VCO
1/2
1/4 RING COUNTER
0° 90° 180° 270°
1/321
AFC PHASE COMPARATOR
FREQUENCY DETECTOR
PHASE ROTATION
SUB B. M
5. 06MHz B. P. F.
AMP
REC
PB
MAIN B. M
630KHz L. P. F.
REC AMP
ACC AMP
630KHz B. P. F.
Q5507/Q5510
BUFFER
IC5502
COMB FILTER
REC
20µsec./div.)
BAR
Q5509
AMP
IC5501-20 REC
0.5Vp-p (20µsec./div.)
COLOUR BAR
S. TAB 5V
Q5005
IC5001
(REC/PLAY HEAD AMP)
FROM PROCESS
REC. Y CTL
REG 5V
Q5503
Q5504
FROM PROCESS
REC. C CTL
Y G. CTL
MIX
C G. CTL
C. SW
C. SW
Q5001
FP5001 2
FE
FP5001 14
FP5001 15
HEAD R1
FP5001 19
FP5001 20
HEAD R2
H. SW
HEAD AMP
H. A. SW
ENV DET
FE CTL
FP5001 16
FP5001 17
HEAD L1
FP5001 21
FP5001 22
HEAD L2
C. SW
Q5002
C. SW
RE ON
ENV DET
TO/FROM SYSTEM CONTROL
VIDEO HEAD CTL
V. D. REC ⊕
LOGIC
H. SW
HA. SW
CT. SW1
CT. SW2
CT. SW3
CT. SW4
IC5001-13 REC/PLAY
3.2Vp-p (10msec./div.)
COLOUR BAR

3-9. TBC BLOCK DIAGRAM


MAIN SIGNAL PATH IN PLAYBACK MODE
FROM SYSTEM CTL
VORP
IC3504
IC3505
AMP
TBC 5V
VR3501
VCO
IC3501
IC3001-2
TBC Y IN
CLAMP
AMP
VCO
1/2
CLAMP
AMP
SYNC SEPA
CURRENT CTL
LOGIC CTL
VREF
GAIN SEL
PHASE COMPRATOR
SYNC SEPA
CLAMP
Q3509/3504
BUFFER
IC3502
OUTPUT BUFFER
SHIFT REGISTER
TIMING CONTROL
4FSC
Q3501
BUFFER
Q3502
BUFFER
FL3501
LPF
Q3503
BUFFER
VR3504
TBC Y LEVEL
FROM SYSTEM CTL
SCH Ⓗ
IC3001-2
TBC Y OUT
IC3504
TBC 5V
EE 5V
IC5501-26
TBC SYNC
IC5501
TBC C IN
TBC C OUT
IC5501-27
HSS
SHIFT REGISTER
OUTPUT REGISTER
TIMING CONTROL
IC3503

IC3501-32 PLAY
0.3Vp-p (20μsec./div.) COLOUR BAR

IC3501-33 PLAY
0.4Vp-p (20μsec./div.) COLOUR BAR

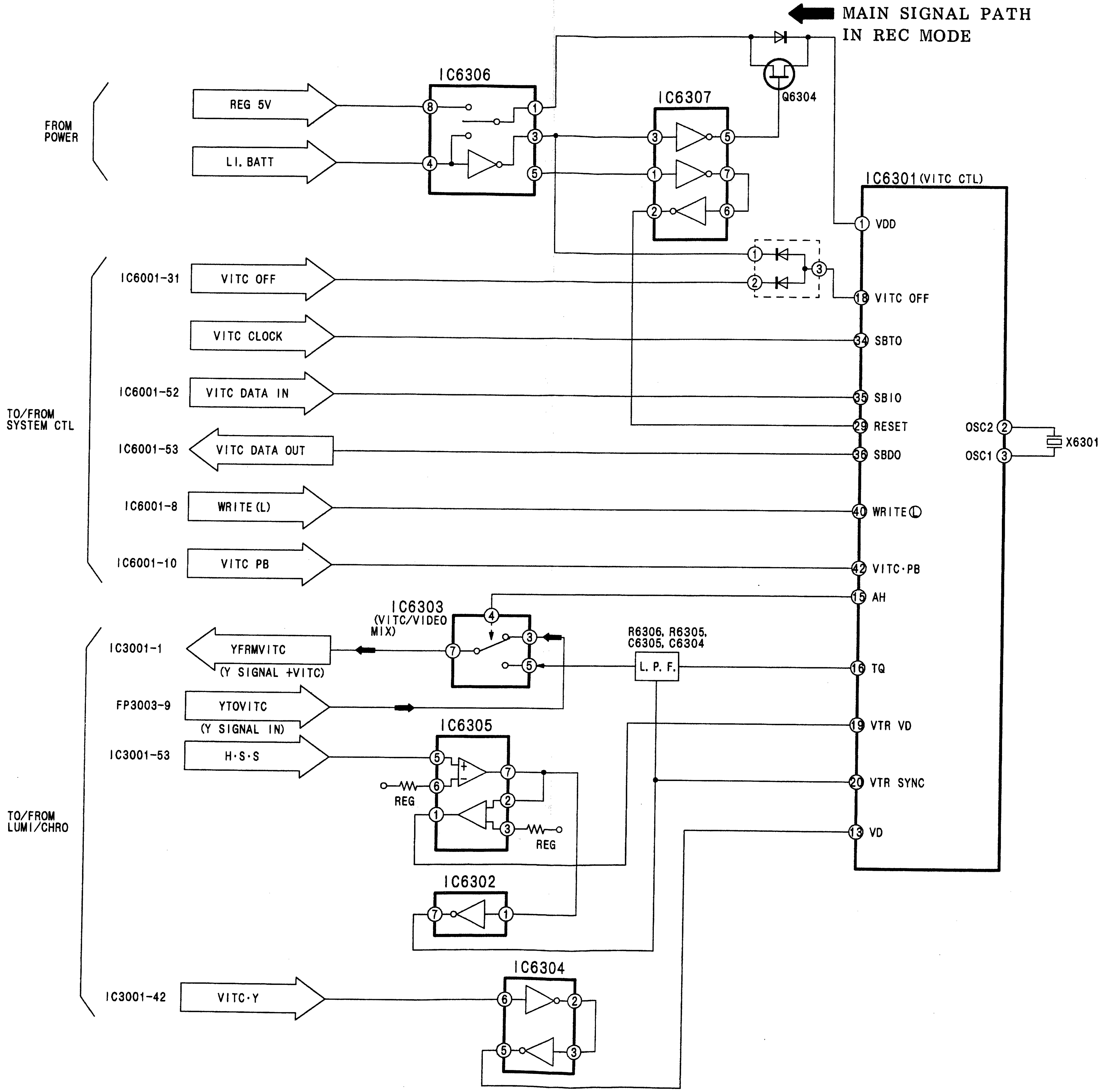
IC3501-37 PLAY
0.2Vp-p (20μsec./div.) COLOUR BAR

IC3502-15 PLAY
0.3Vp-p (0.1μsec./div.)

IC3501-36 PLAY
0.4Vp-p (20μsec./div.) COLOUR BAR

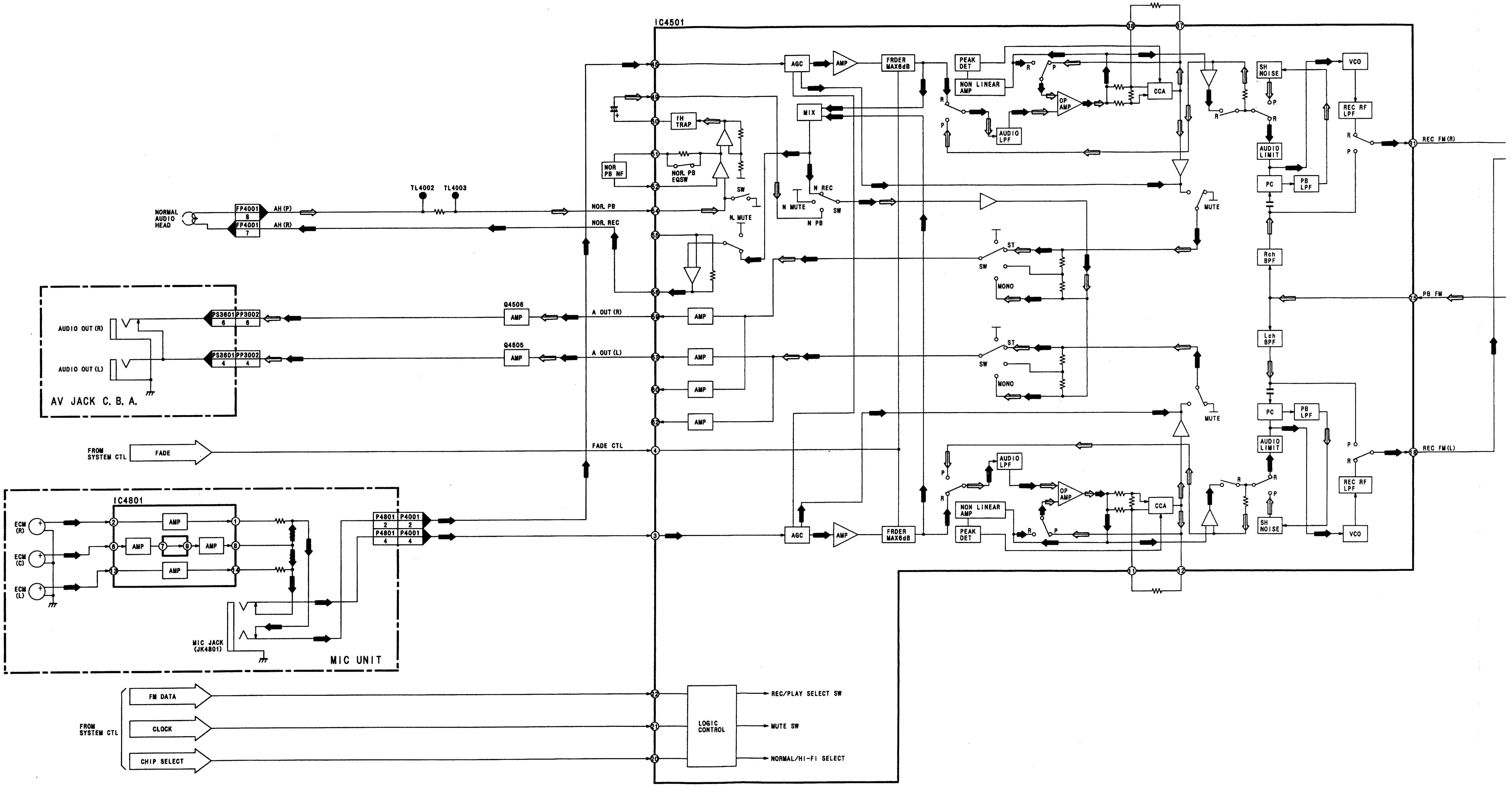
IC3503-4 PLAY
0.7Vp-p (20μsec./div.) COLOUR BAR

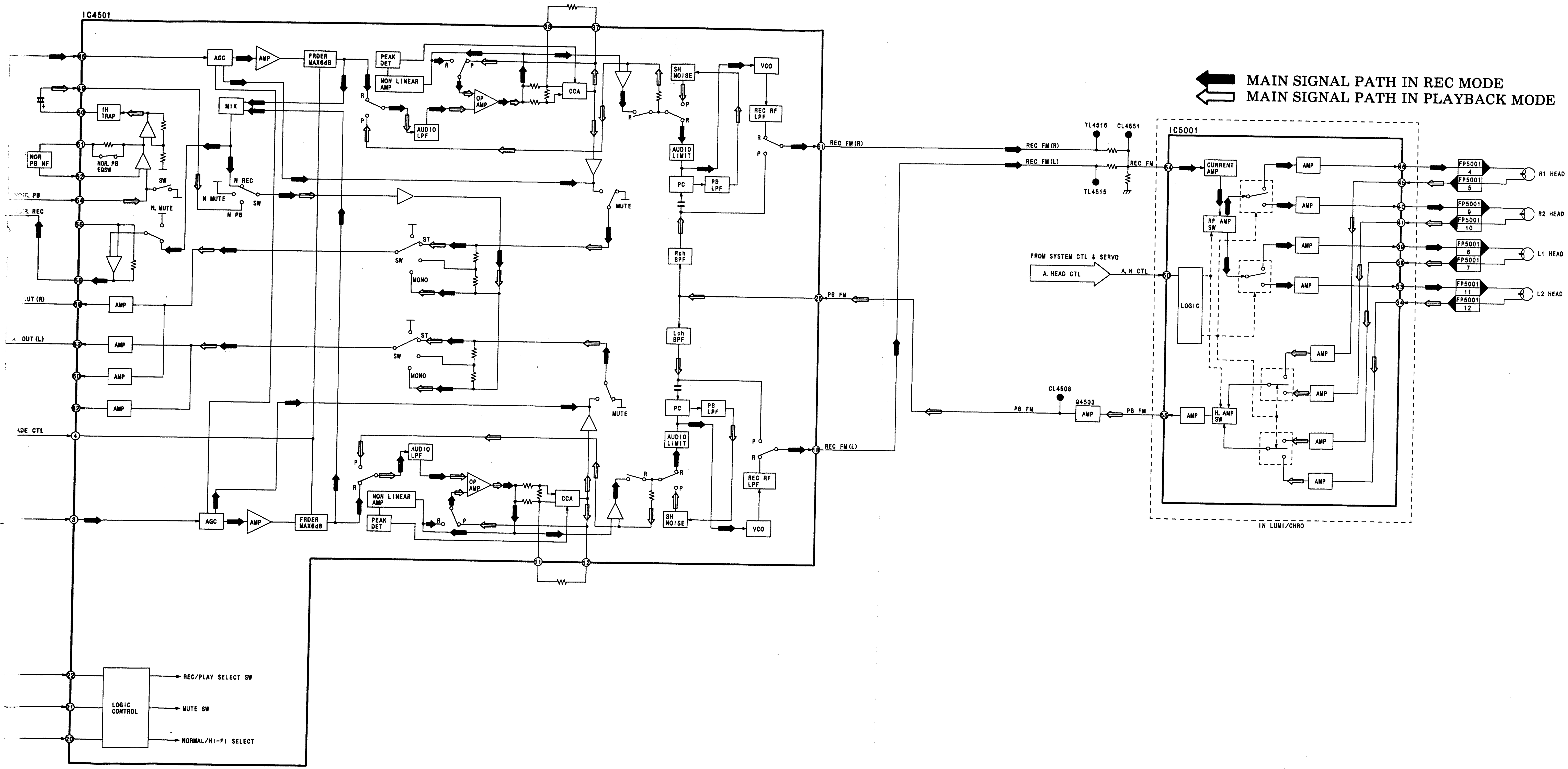
3-10. VITC BLOCK DIAGRAM


MAIN SIGNAL PATH IN REC MODE
FROM POWER
REG 5V
LI. BATT
IC6306
IC6307
Q6304
IC6301 (VITC CTL)
VDD
TO/FROM SYSTEM CTL
IC6001-31
VITC OFF
VITC CLOCK
IC6001-52
VITC DATA IN
IC6001-53
VITC DATA OUT
IC6001-8
WRITE (L)
IC6001-10
VITC PB
VITC OFF
SBTO
SBIO
RESET
SBDO
WRITE Ⓛ
VITC·PB
AH
TQ
VTR VD
VTR SYNC
VD
OSC2
OSC1
X6301
IC6303 (VITC/VIDEO MIX)
R6306, R6305, C6305, C6304
L. P. F.
TO/FROM LUMI/CHRO
IC3001-1
YFRMVITC
(Y SIGNAL +VITC)
FP3003-9
YTOVITC
(Y SIGNAL IN)
IC3001-53
H·S·S
IC6305
REG
REG
IC6302
IC3001-42
VITC·Y
IC6304

Back Page:
TBC Section

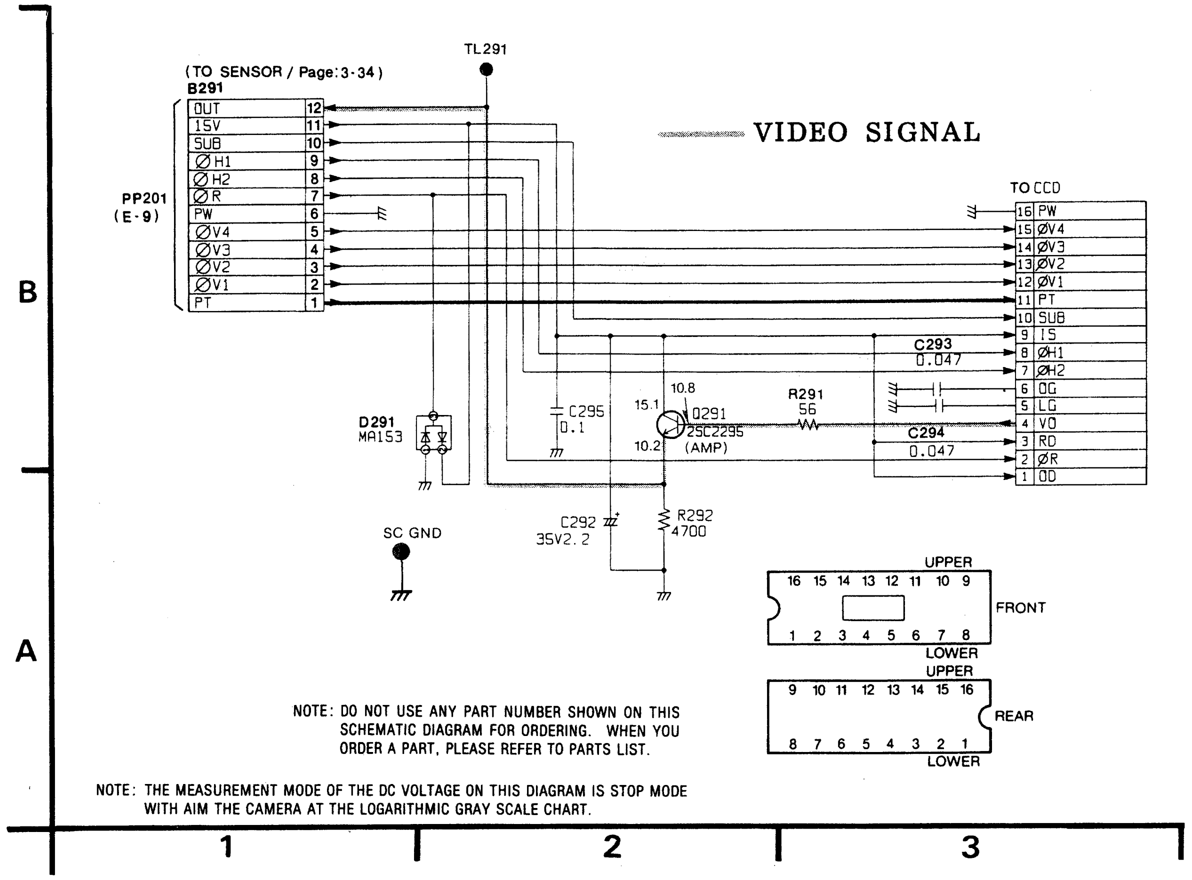
3-11. AUDIO BLOCK DIAGRAM


IC4501
NORMAL AUDIO HEAD
FP4001 8
FP4001 7
AH (P)
AH (R)
TL4002
TL4003
NOR. PB
NOR. REC
NOR PB NF
NOR. PB EQSW
fH TRAP
SW
N. MUTE
MIX
N REC
N MUTE
N PB
AGC
AMP
FRDER MAX6dB
PEAK DET
NON LINEAR AMP
AUDIO LPF
OP AMP
CCA
R
P
ST
MONO
MUTE
SH NOISE
AUDIO LIMIT
PC
PB LPF
Rch BPF
Lch BPF
VCO
REC RF LPF
REC FM (R)
PB FM
REC FM (L)
AUDIO OUT (R)
AUDIO OUT (L)
PS3601 PP3002 6 6
PS3601 PP3002 4 4
AV JACK C. B. A.
Q4506
Q4505
A OUT (R)
A OUT (L)
FROM SYSTEM CTL
FADE
FADE CTL
IC4801
ECM (R)
ECM (C)
ECM (L)
MIC JACK (JK4801)
MIC UNIT
P4801 P4001 2 2
P4801 P4001 4 4
FM DATA
CLOCK
CHIP SELECT
LOGIC CONTROL
REC/PLAY SELECT SW
MUTE SW
NORMAL/HI-FI SELECT
45
49
50
51
52
54
55
56
59
63
60
62
4
3
22
21
20
38
37
31
25
18
11
12
2
6
13
1
8
14
7
9


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
IC4501
AGC
AMP
FADER MAX6dB
PEAK DET
NON LINEAR AMP
OP AMP
CCA
AUDIO LPF
SH NOISE
VCO
REC RF LPF
AUDIO LIMIT
PC
PB LPF
Rch BPF
Lch BPF
MIX
1H TRAP
NOR PB NF
NOR PB EQSW
SW
N. MUTE
N REC
N MUTE
N PB
NOR. PB
NOR. REC
OUT (R)
OUT (L)
HEAD CTL
ST
MONO
MUTE
R
P
REC FM (R)
REC FM (L)
PB FM
LOGIC CONTROL
REC/PLAY SELECT SW
MUTE SW
NORMAL/HI-FI SELECT
TL4516
CL4551
TL4515
REC FM
IC5001
CURRENT AMP
RF AMP SW
LOGIC
H. AMP SW
FROM SYSTEM CTL & SERVO
A. HEAD CTL
A. H CTL
CL4508
Q4503
FP5001 4
FP5001 5
FP5001 9
FP5001 10
FP5001 6
FP5001 7
FP5001 11
FP5001 12
R1 HEAD
R2 HEAD
L1 HEAD
L2 HEAD
IN LUMI/CHRO

Next Page:
CCD FLEX. CARRD, AWT SENSOR,
IR REMOTE CTL & MF SENSOR Section

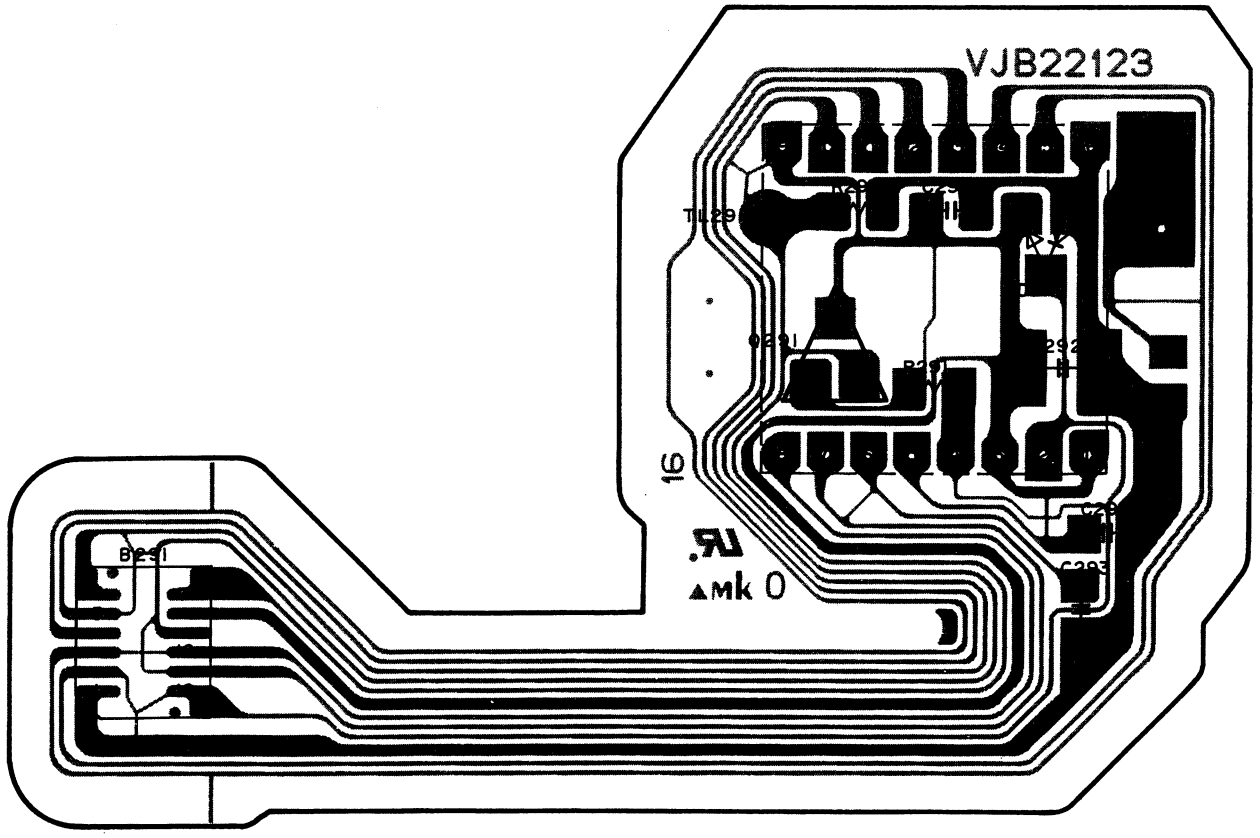
3-12. CCD FLEXIBLE CARD SCHEMATIC DIAGRAM


B
A
1
2
3
TL291
(TO SENSOR / Page:3-34)
B291
OUT 12
15V 11
SUB 10
ØH1 9
ØH2 8
ØR 7
PW 6
ØV4 5
ØV3 4
ØV2 3
ØV1 2
PT 1
PP201
(E-9)
VIDEO SIGNAL
TO CCD
16 PW
15 ØV4
14 ØV3
13 ØV2
12 ØV1
11 PT
10 SUB
9 IS
8 ØH1
7 ØH2
6 OG
5 LG
4 VO
3 RD
2 ØR
1 OD
C293
0.047
C294
0.047
R291
56
Q291
2SC2295
(AMP)
10.8
15.1
10.2
C295
0.1
D291
MA153
C292
35V2.2
R292
4700
SC GND
UPPER
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
LOWER
FRONT
UPPER
9 10 11 12 13 14 15 16
8 7 6 5 4 3 2 1
LOWER
REAR

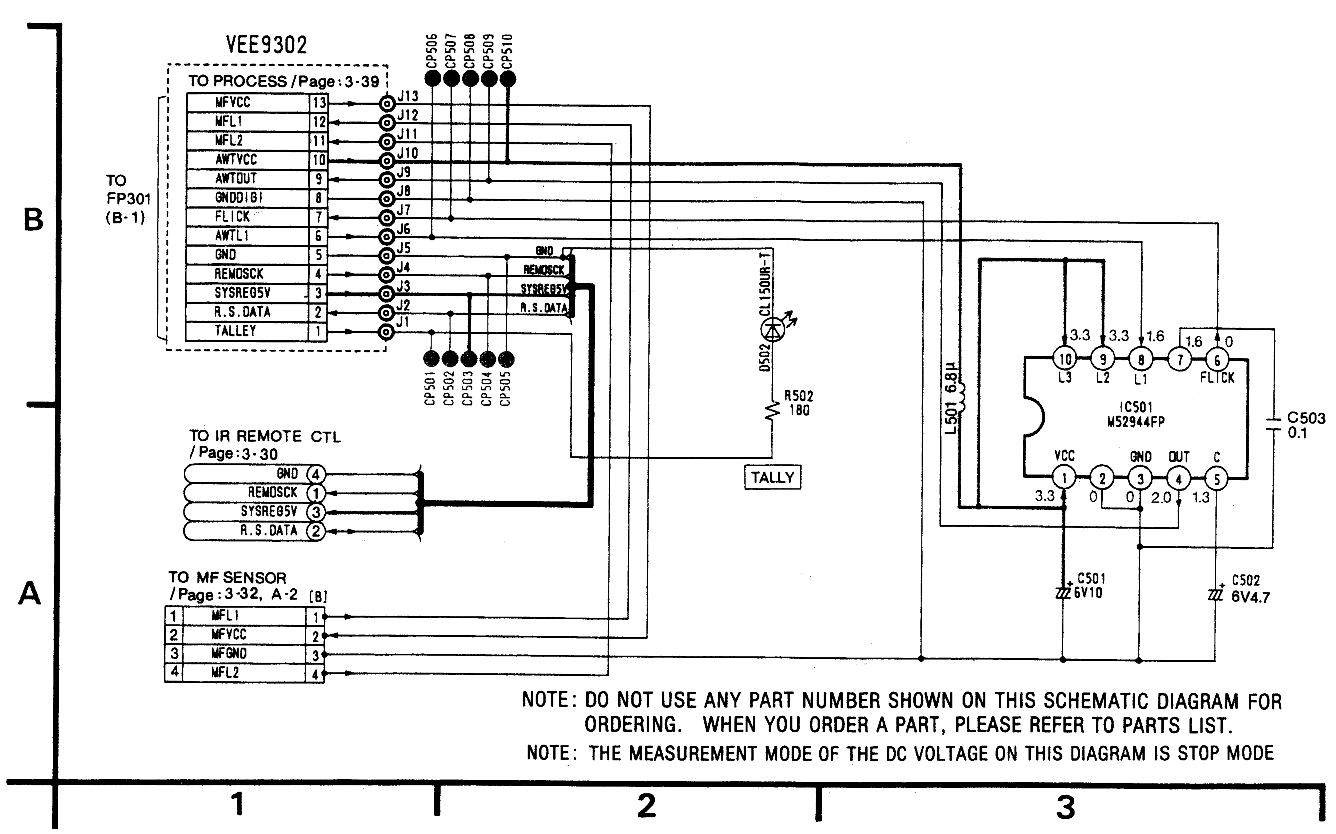
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-13. CCD FLEXIBLE CARD C.B.A. (VEP22123D)


VJB22123
TL291
Q291
R291
D292
16
B291
C293
▲Mk 0

3-14. AWT SENSOR SCHEMATIC DIAGRAM

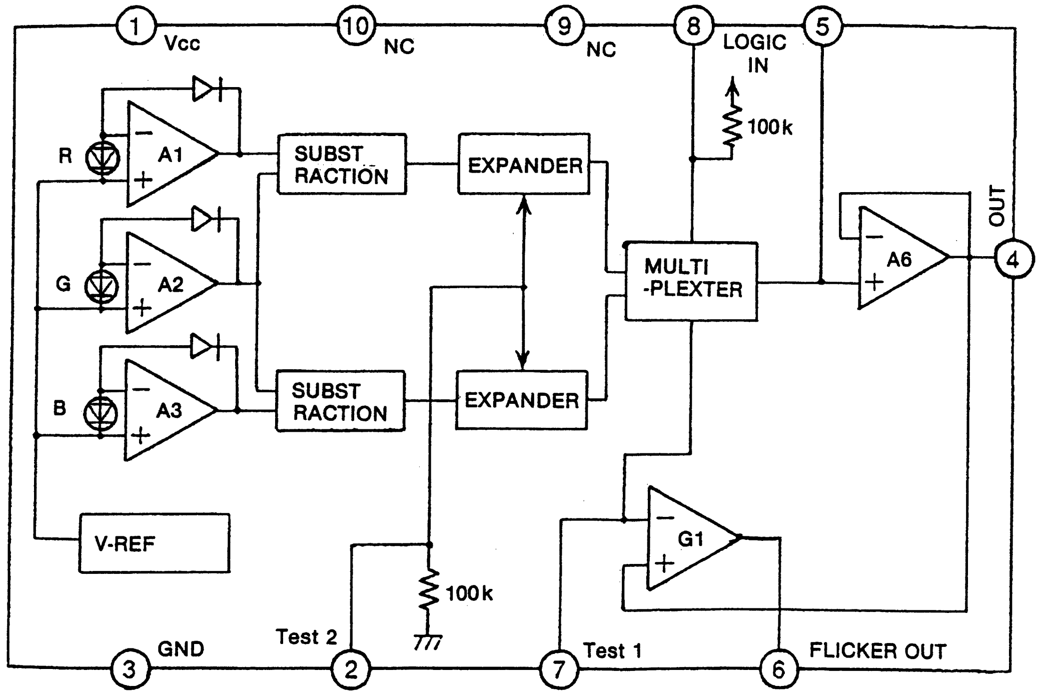

B
A
1
2
3
VEE9302
TO PROCESS /Page:3-39
TO
FP301
(B-1)
MFVCC 13
MFL1 12
MFL2 11
AWTVCC 10
AWTOUT 9
GNDDIGI 8
FLICK 7
AWTL1 6
GND 5
REMOSCK 4
SYSREG5V 3
R.S.DATA 2
TALLEY 1
J13
J12
J11
J10
J9
J8
J7
J6
J5
J4
J3
J2
J1
CP506
CP507
CP508
CP509
CP510
CP501
CP502
CP503
CP504
CP505
GND
REMOSCK
SYSREG5V
R.S.DATA
TO IR REMOTE CTL
/Page:3-30
GND 4
REMOSCK 1
SYSREG5V 3
R.S.DATA 2
TO MF SENSOR
/Page:3-32, A-2 [B]
1 MFL1 1
2 MFVCC 2
3 MFGND 3
4 MFL2 4
D502 CL150UR-T
R502
180
TALLY
L501 6.8µ
IC501
M52944FP
L3
L2
L1
FLICK
VCC
GND
OUT
C
3.3
3.3
1.6
1.6
0
3.3
0
0
2.0
1.3
C503
0.1
C501
6V10
C502
6V4.7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

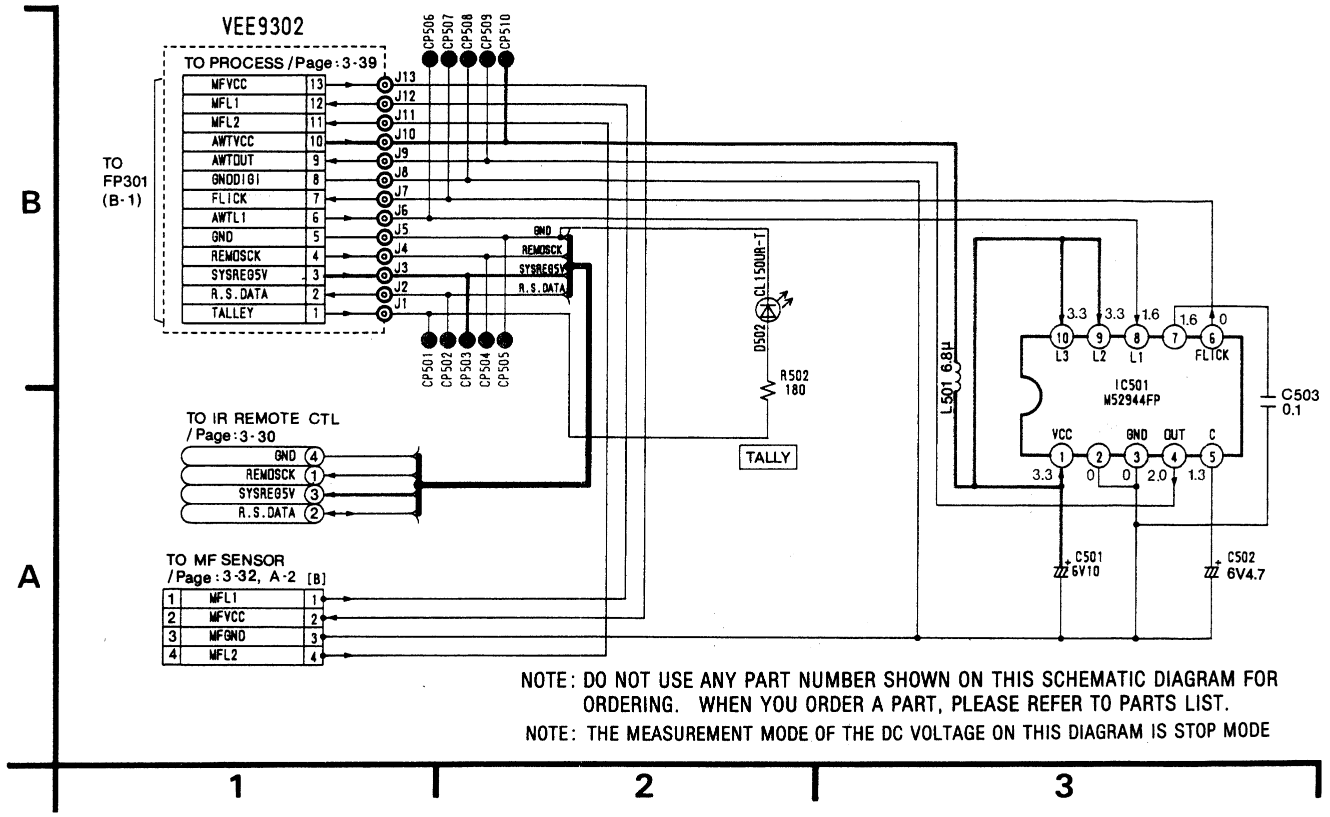
IC BLOCK

IC501 (M52944FP)
(LOCATION: A-3)


1 Vcc
10 NC
9 NC
8 LOGIC IN
5
100k
R
A1
G
A2
B
A3
SUBST RACTION
SUBST RACTION
EXPANDER
EXPANDER
MULTI -PLEXTER
A6
OUT
4
V-REF
G1
100k
3 GND
Test 2
2
7 Test 1
6 FLICKER OUT

3-1

3-14. AWT SENSOR SCHEMATIC DIAGRAM

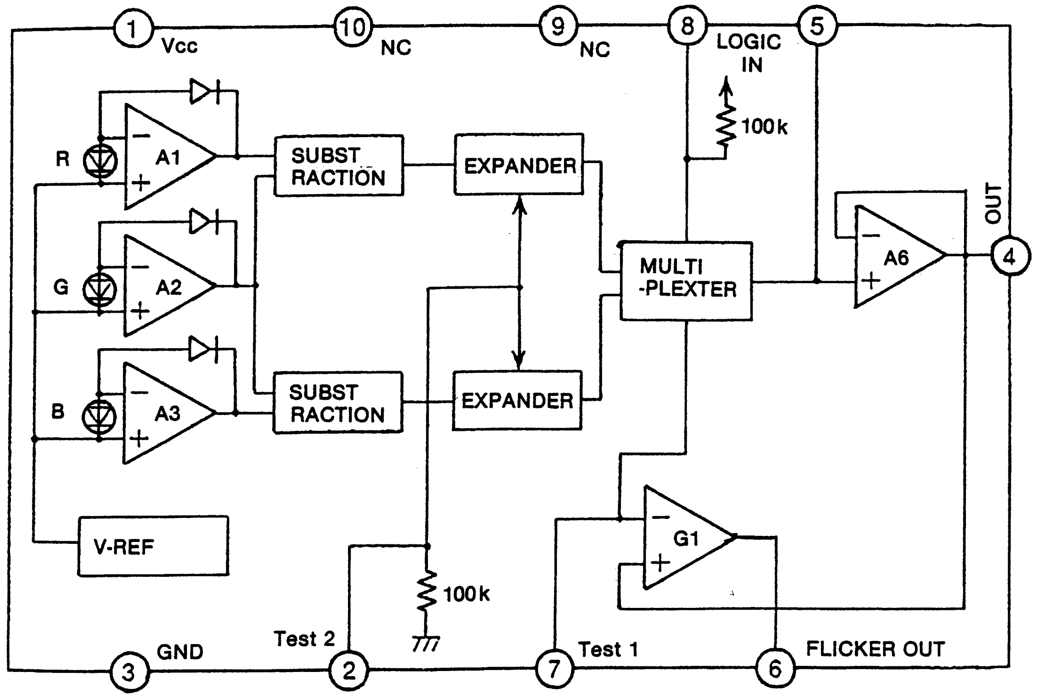

VEE9302
TO PROCESS / Page : 3-39
TO FP301 (B-1)
MFVCC 13
MFL1 12
MFL2 11
AWTVCC 10
AWTOUT 9
GNDDIGI 8
FLICK 7
AWTL1 6
GND 5
REMOSCK 4
SYSREG5V 3
R.S.DATA 2
TALLEY 1
J13
J12
J11
J10
J9
J8
J7
J6
J5
J4
J3
J2
J1
CP506
CP507
CP508
CP509
CP510
CP501
CP502
CP503
CP504
CP505
GND
REMOSCK
SYSREG5V
R.S.DATA
D502 CL150UR-T
R502 180
TALLY
TO IR REMOTE CTL / Page : 3-30
GND 4
REMOSCK 1
SYSREG5V 3
R.S.DATA 2
TO MF SENSOR / Page : 3-32, A-2 [B]
1 MFL1 1
2 MFVCC 2
3 MFGND 3
4 MFL2 4
L501 6.8μ
IC501 M52944FP
10 L3
9 L2
8 L1
7
6 FLICK
VCC 1
2
GND 3
OUT 4
C 5
3.3
3.3
1.6
1.6
0
3.3
0
0
2.0
1.3
C503 0.1
C501 6V10
C502 6V4.7
B
A
1
2
3

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

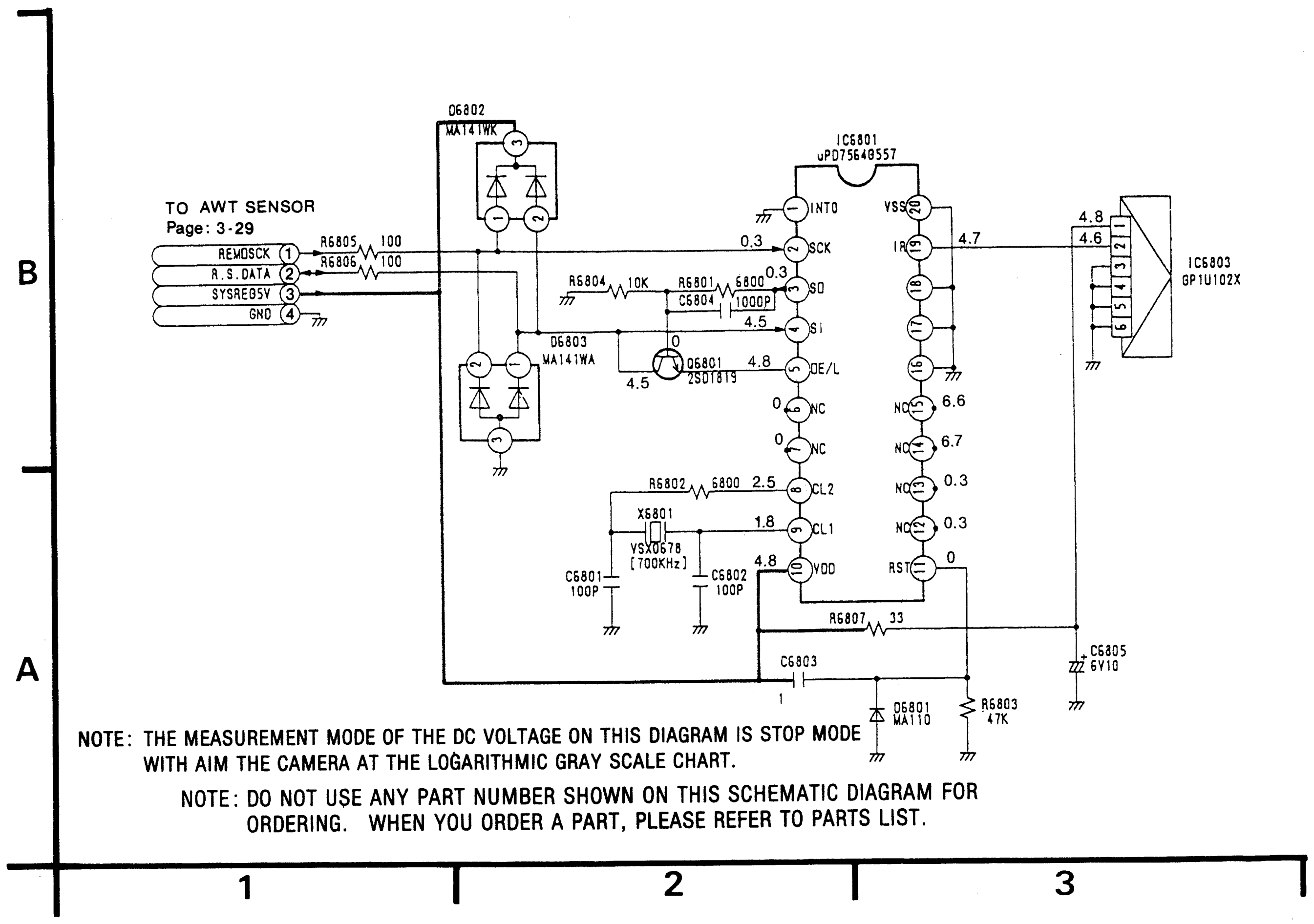
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

IC BLOCK

IC501 (M52944FP)
(LOCATION: A-3)


1 Vcc
10 NC
9 NC
8 LOGIC IN
5
100k
R
G
B
A1
A2
A3
SUBST RACTION
SUBST RACTION
EXPANDER
EXPANDER
MULTI -PLEXTER
A6
OUT
4
V-REF
G1
100k
3 GND
Test 2 2
7 Test 1
6 FLICKER OUT

3-15. IR REMOTE CONTROL SCHEMATIC DIAGRAM

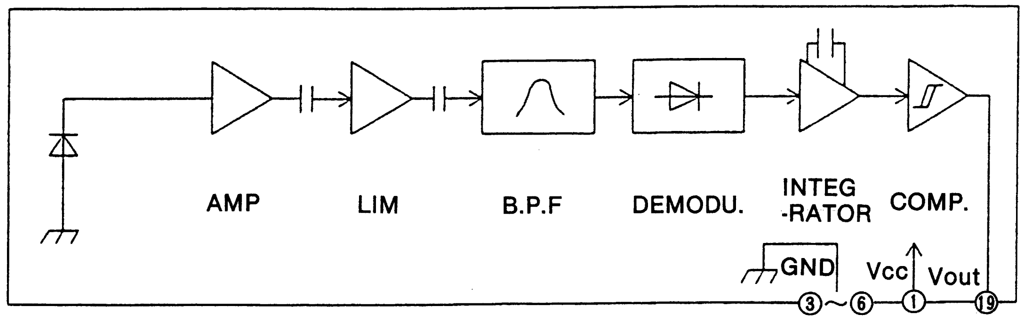

TO AWT SENSOR Page: 3-29
REMOSCK 1
R.S.DATA 2
SYSREG5V 3
GND 4
R6805 100
R6806 100
D6802 MA141WK
D6803 MA141WA
R6804 10K
R6801 6800
C6804 1000P
Q6801 2SD1819
R6802 6800
X6801 VSX0678 [700KHz]
C6801 100P
C6802 100P
IC6801 uPD75640557
1 INT0
2 SCK
3 SO
4 SI
5 OE/L
6 NC
7 NC
8 CL2
9 CL1
10 VDD
20 VSS
19 IR
18
17
16
15 NC
14 NC
13 NC
12 NC
11 RST
0.3
0.3
4.5
4.8
4.5
0
0
0
2.5
1.8
4.8
4.7
6.6
6.7
0.3
0.3
0
4.8
4.6
IC6803 GP1U102X
R6807 33
C6803 1
D6801 MA110
R6803 47K
C6805 6V10
B
A
1
2
3

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

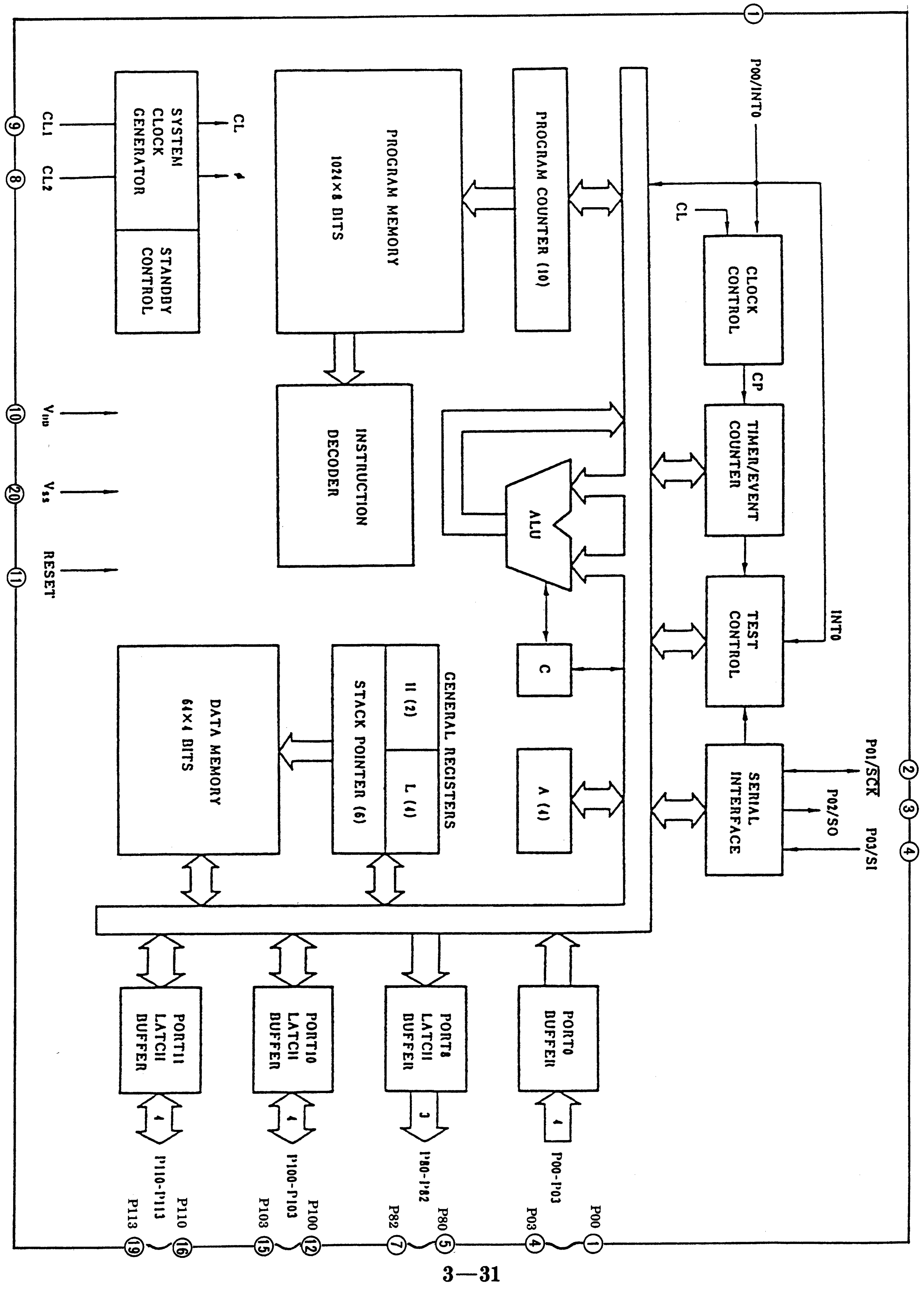
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IC BLOCK

IC6803 (GP1U102X)
(LOCATION: B-3)

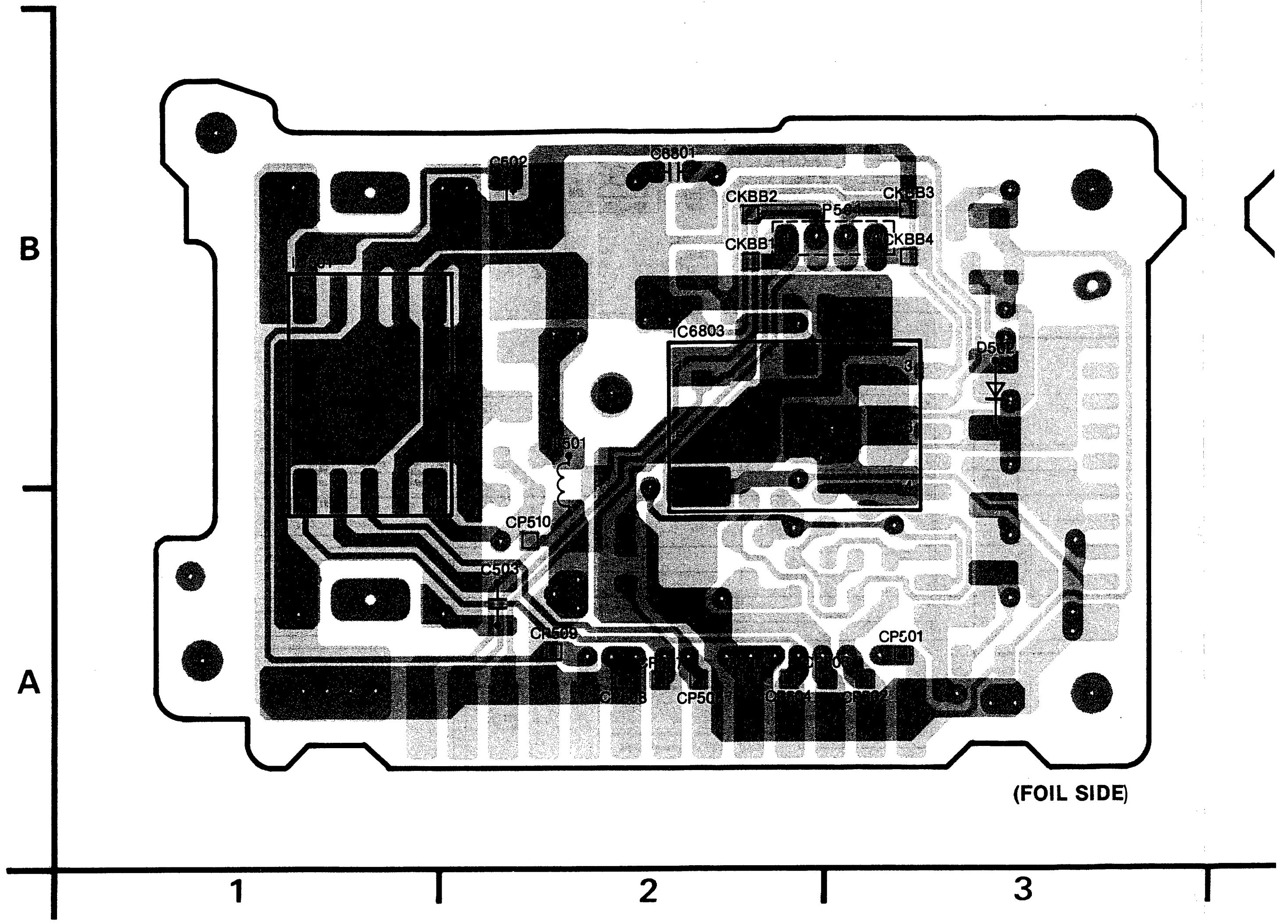

AMP
LIM
B.P.F
DEMODU.
INTEG -RATOR
COMP.
GND
Vcc
Vout
3 ~ 6
1
19

IC6801 (µPD7564G557)
(LOCATION: B-3)



①
P00/INT0
CL1
CL2
⑨
⑧
SYSTEM CLOCK GENERATOR
STANDBY CONTROL
CL
PROGRAM MEMORY
1024×8 BITS
PROGRAM COUNTER (10)
CL
CLOCK CONTROL
CP
INSTRUCTION DECODER
TIMER/EVENT COUNTER
ALU
V_{DD}
⑩
V_{SS}
⑳
RESET
⑪
TEST CONTROL
INT0
C
DATA MEMORY
64×4 BITS
STACK POINTER (6)
H (2)
L (4)
GENERAL REGISTERS
A (4)
SERIAL INTERFACE
P01/SCK
P02/SO
P03/SI
②
③
④
PORT11 LATCH BUFFER
PORT10 LATCH BUFFER
PORT8 LATCH BUFFER
PORT0 BUFFER
4
4
3
4
P110-P113
P100-P103
P80-P82
P00-P03
P110 ⑯
P113 ⑲
P100 ⑫
P103 ⑮
P80 ⑤
P82 ⑦
P00 ①
P03 ④

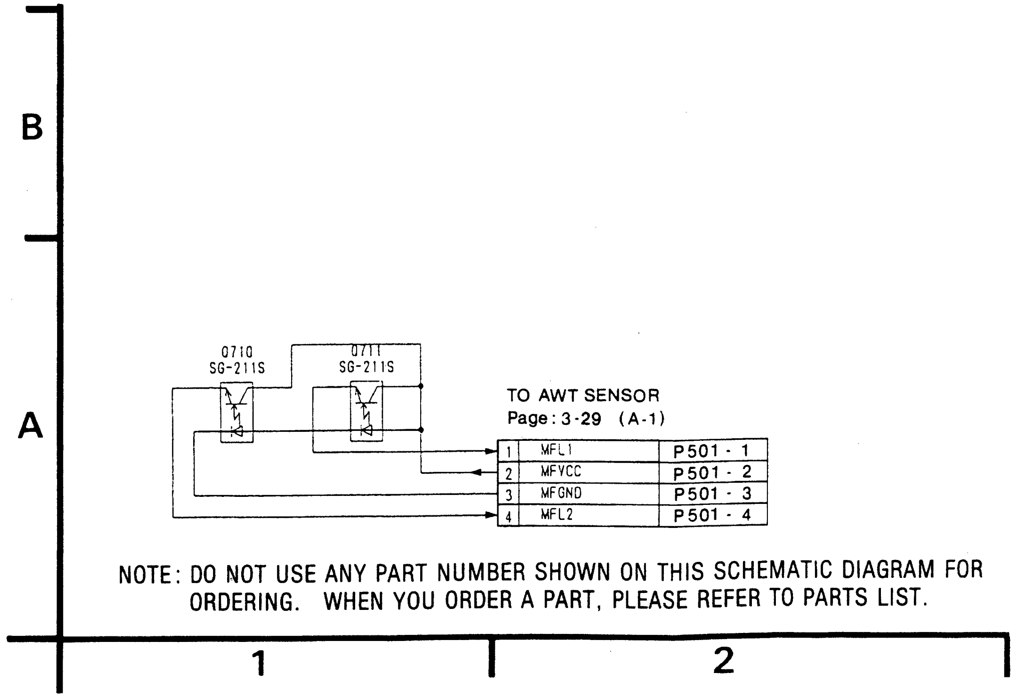
3-16. AWT SENSOR & IR REMOTE CONTROL C.B.A. (VEP23271A)



B
A
1
2
3
C6802
C6801
CKBB2
CKBB3
CKBB1
CKBB4
P501
IC6803
D501
CP510
C503
CP501

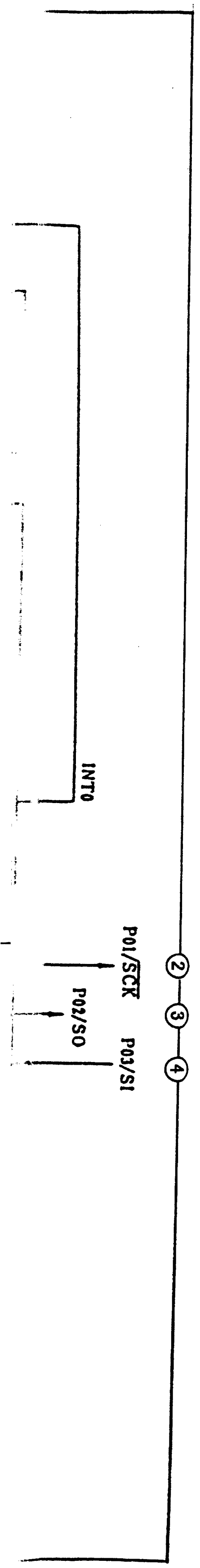
(FOIL SIDE)

3-17. MF SENSOR SCHEMATIC DIAGRAM

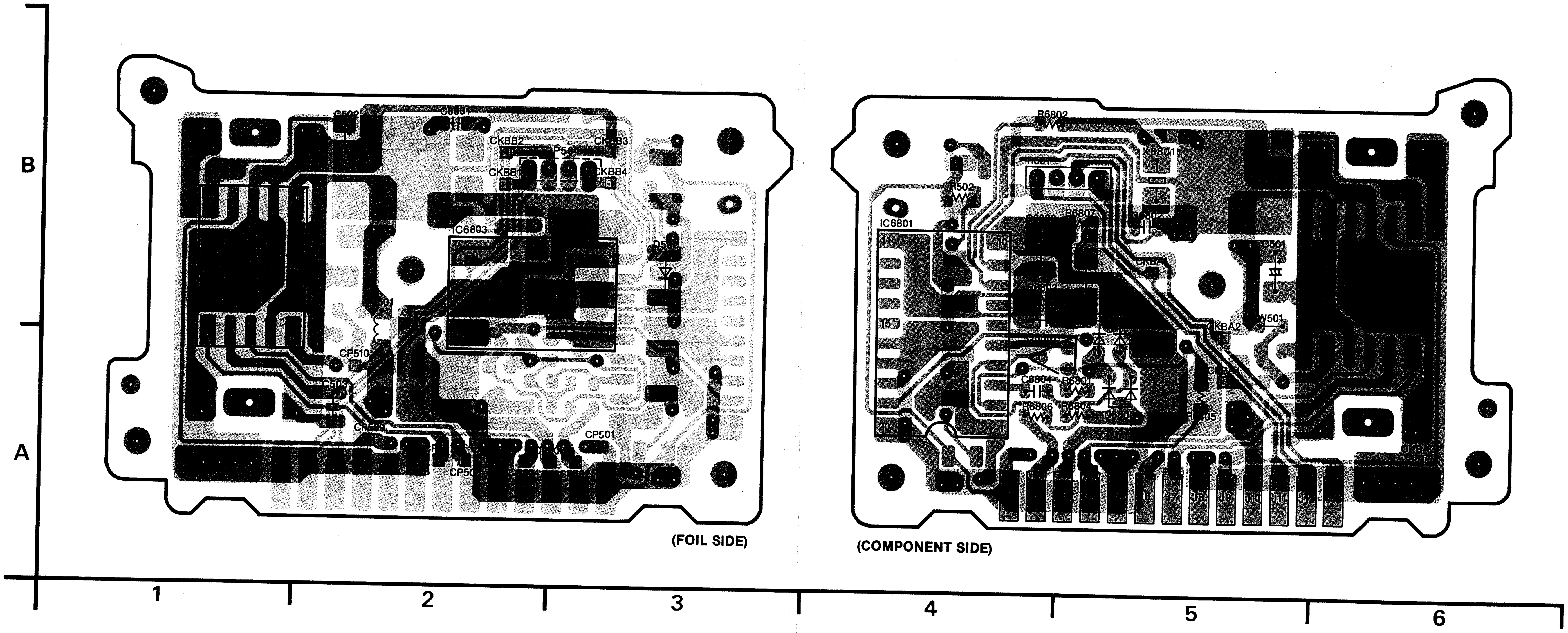


B
A
1
2
Q710
SG-211S
Q711
SG-211S
TO AWT SENSOR
Page: 3-29 (A-1)
1 MFL1 P501 - 1
2 MFVCC P501 - 2
3 MFGND P501 - 3
4 MFL2 P501 - 4

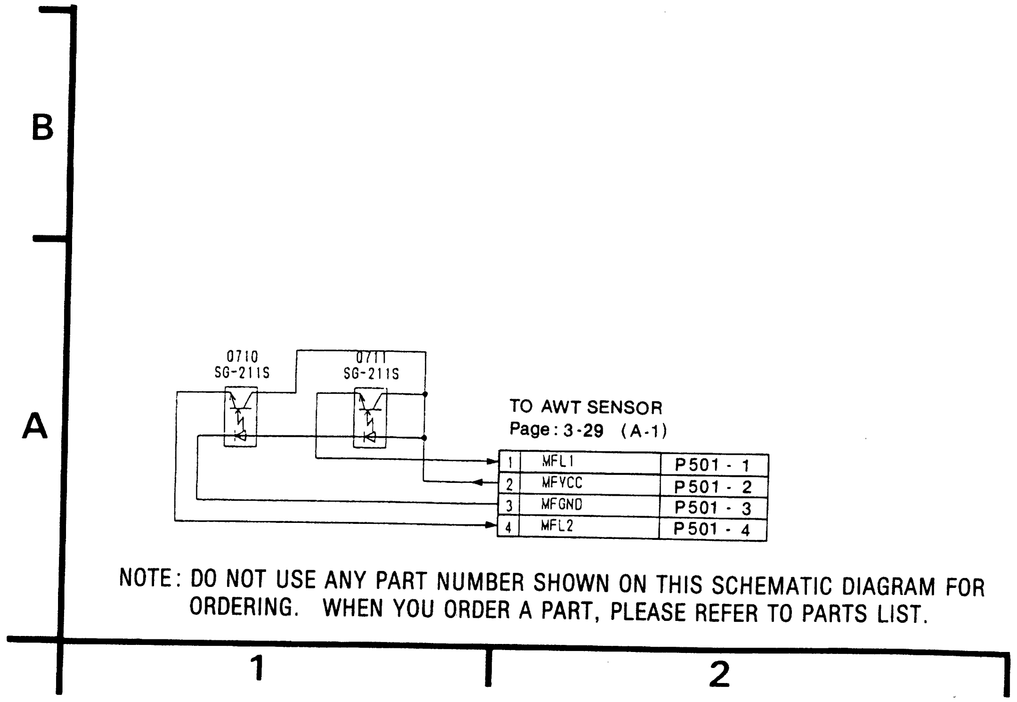
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


INT0
P01/SCK
P02/SO
P03/SI
②
③
④

3-16. AWT SENSOR & IR REMOTE CONTROL C.B.A. (VEP23271A)


B
A
1
2
3
4
5
6
C502
C6801
CKBB2
CKBB3
P501
CKBB1
CKBB4
IC6803
D501
L501
CP510
C503
CP509
CP501
CP502
(FOIL SIDE)
R6802
X6801
P501
R502
IC6801
R6807
C501
CKBA1
R6803
W501
CKBA2
C6804
R6801
R6806
R6804
D6803
R6805
CKBA0
(COMPONENT SIDE)

3-17. MF SENSOR SCHEMATIC DIAGRAM


B
A
1
2
Q710
SG-211S
Q711
SG-211S
TO AWT SENSOR
Page : 3-29 (A-1)
1 MFL1 P501 - 1
2 MFVCC P501 - 2
3 MFGND P501 - 3
4 MFL2 P501 - 4

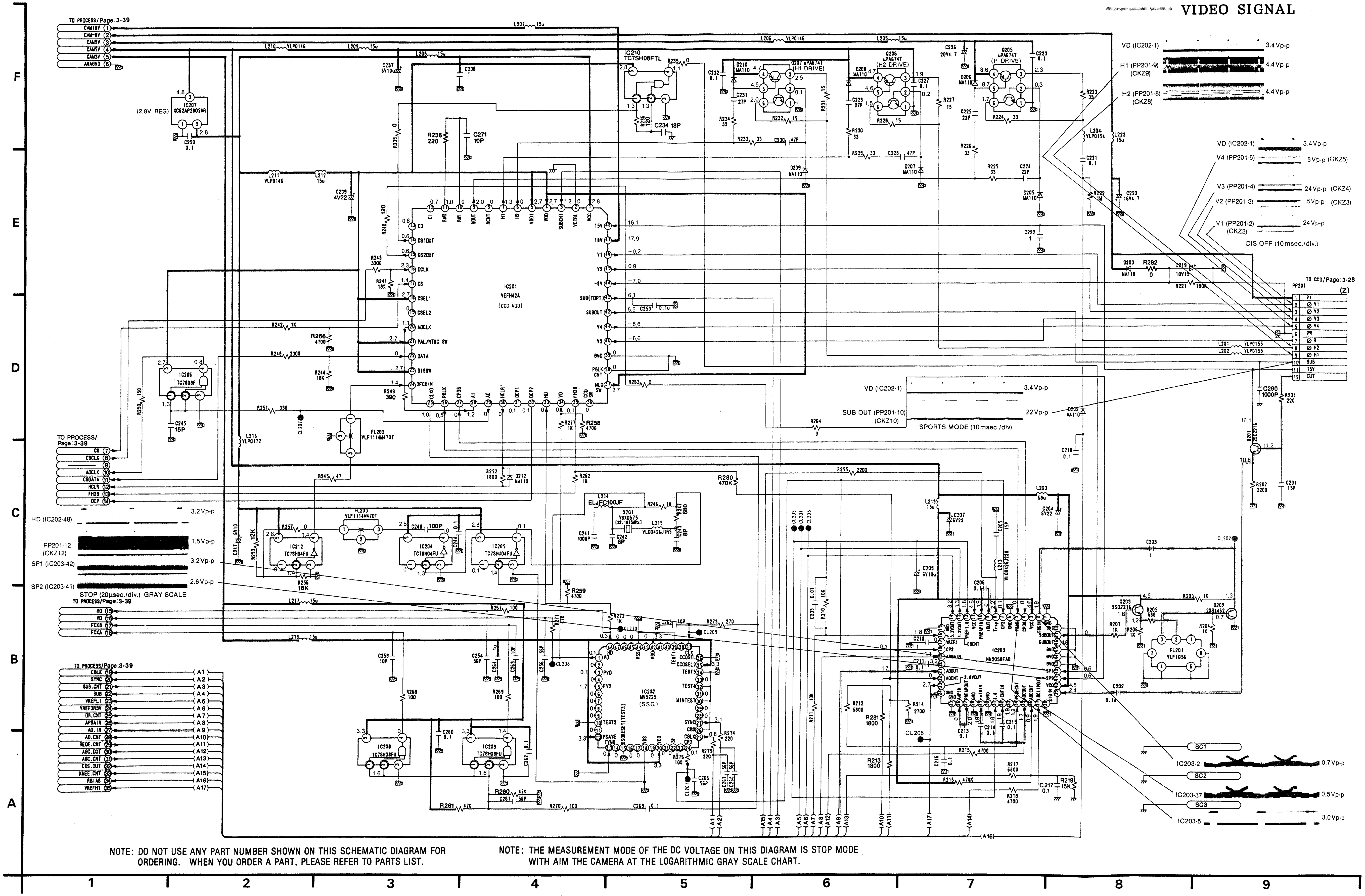
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

AWT C.B.A.	
Transistor	
Q6801	A-4
Integrated Circuit	
IC501 IC6801 IC6803	B-1 B-4 B-2
Connector	
P501 P501	B-3 B-4

ADDRESS INFORMATION

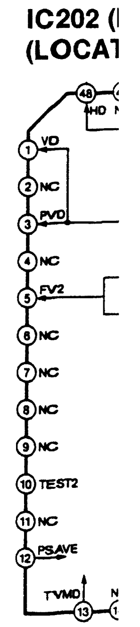
Next Page:
SENSOR Section

3-18. SENSOR SCHEMATIC DIAGRAM

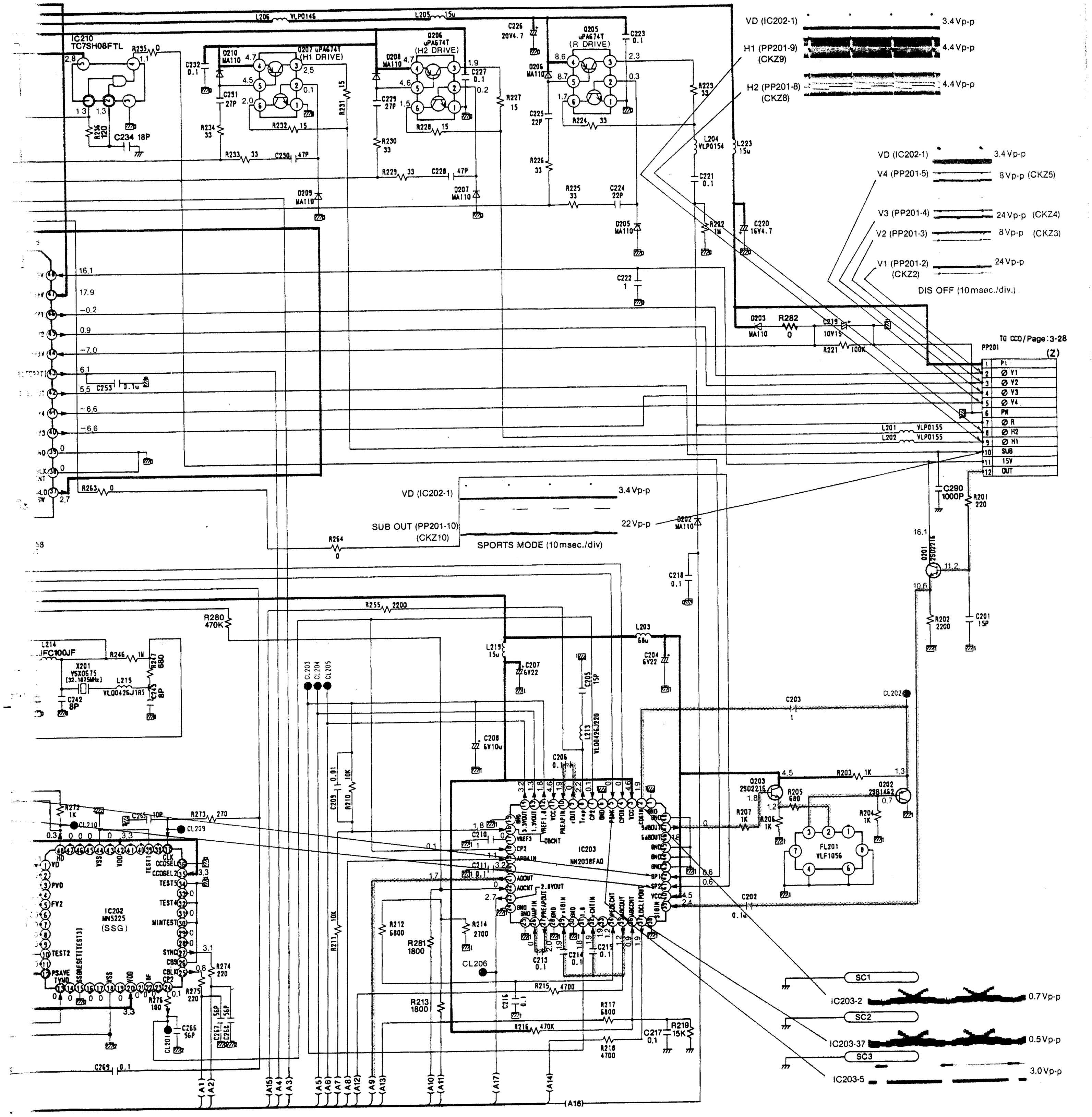

VIDEO SIGNAL
TO PROCESS/Page:3-39
CAM18V
CAM-8V
CAM5V
CAM5V
CAM3V
AMAGND
IC207 XC62AP2802MR
(2.8V REG)
IC210 TC7SH08FTL
IC201 YEFH42A (CCD MGD)
IC206 TC7S08F
IC212 TC7SH04FU
IC204 TC7SH04FU
IC205 TC7SHU04FU
IC208 TC7SH08FU
IC209 TC7SH08FU
IC202 MN5225 (SSG)
IC203 MN2036FAD
Q207 uPA674T (H1 DRIVE)
Q206 uPA674T (H2 DRIVE)
Q205 uPA674T (R DRIVE)
Q201 2SD2216
Q202 2SB1462
Q203 2SD2216
FL202 YLF1114M470T
FL203 YLF1114M470T
FL201 YLF1056
X201 VSX0675 (32.1875MHz)
L214 ELJFC100JF
VD (IC202-1) 3.4Vp-p
H1 (PP201-9) (CKZ9) 4.4Vp-p
H2 (PP201-8) (CKZ8) 4.4Vp-p
VD (IC202-1) 3.4Vp-p
V4 (PP201-5) 8Vp-p (CKZ5)
V3 (PP201-4) 24Vp-p (CKZ4)
V2 (PP201-3) 8Vp-p (CKZ3)
V1 (PP201-2) (CKZ2) 24Vp-p
DIS OFF (10msec./div.)
TO CCD/Page:3-28
PP201
(Z)
VD (IC202-1) 3.4Vp-p
SUB OUT (PP201-10) (CKZ10) 22Vp-p
SPORTS MODE (10msec./div)
TO PROCESS/ Page:3-39
CS
CBCLK
ADCLK
CBDATA
HCLR
FH28
DCP
HD (IC202-48) 3.2Vp-p
PP201-12 (CKZ12) 1.5Vp-p
SP1 (IC203-42) 3.2Vp-p
SP2 (IC203-41) 2.6Vp-p
STOP (20μsec./div.) GRAY SCALE
TO PROCESS/Page:3-39
HD
VD
FCK8
FCKA
TO PROCESS/Page:3-39
CBLK
SYNC
SUB.CNT
SUB
VREFL1
VREF3R3V
DR.CNT
APBAIN
AD.IN
AD.CNT
REDE.CNT
ABC.OUT
ABC.CNT
CDS.OUT
KNEE.CNT
RBIAS
VREFH1
SC1
IC203-2 0.7Vp-p
SC2
IC203-37 0.5Vp-p
SC3
IC203-5 3.0Vp-p
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.


IC202 (
(LOCAT
HD
VD
NC
PVD
NC
FV2
NC
NC
NC
NC
TEST2
NC
PSAVE
TVMD

VIDEO SIGNAL



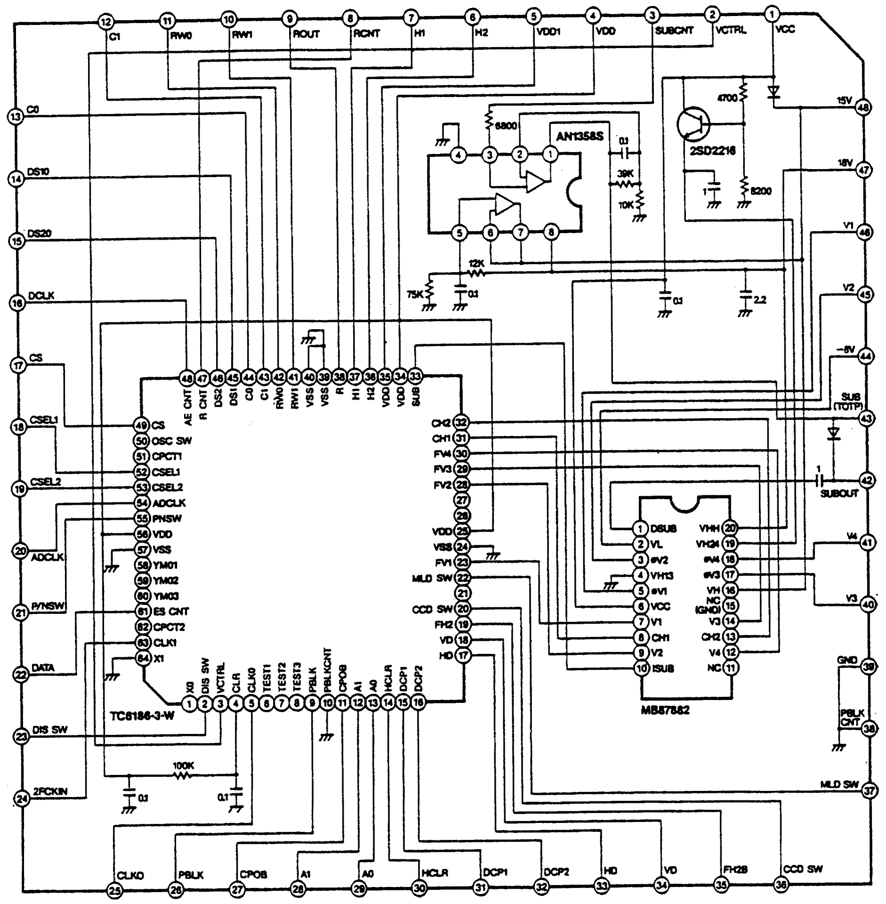
IC210 TC7SH08FTL
Q207 μPA674T (H1 DRIVE)
Q206 μPA674T (H2 DRIVE)
Q205 μPA674T (R DRIVE)
VD (IC202-1) 3.4Vp-p
H1 (PP201-9) (CKZ9) 4.4Vp-p
H2 (PP201-8) (CKZ8) 4.4Vp-p
VD (IC202-1) 3.4Vp-p
V4 (PP201-5) 8Vp-p (CKZ5)
V3 (PP201-4) 24Vp-p (CKZ4)
V2 (PP201-3) 8Vp-p (CKZ3)
V1 (PP201-2) (CKZ2) 24Vp-p
DIS OFF (10msec./div.)
TO CCD/Page:3-28
(Z)
PP201
P1
Ø V1
Ø V2
Ø V3
Ø V4
PW
Ø R
Ø H2
Ø H1
SUB
15V
OUT
VD (IC202-1) 3.4Vp-p
SUB OUT (PP201-10) (CKZ10) 22Vp-p
SPORTS MODE (10msec./div.)
X201 VSX0675 (32.1875MHz)
IC202 MN5225 (SSG)
IC203 MN2038FAQ
FL201 VLF1056
Q203 2SD2216
Q202 2SB1462
Q201 2SD2216
CL206
SC1
SC2
SC3
IC203-2 0.7Vp-p
IC203-37 0.5Vp-p
IC203-5 3.0Vp-p

MENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
E CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

5 6 7 8 9

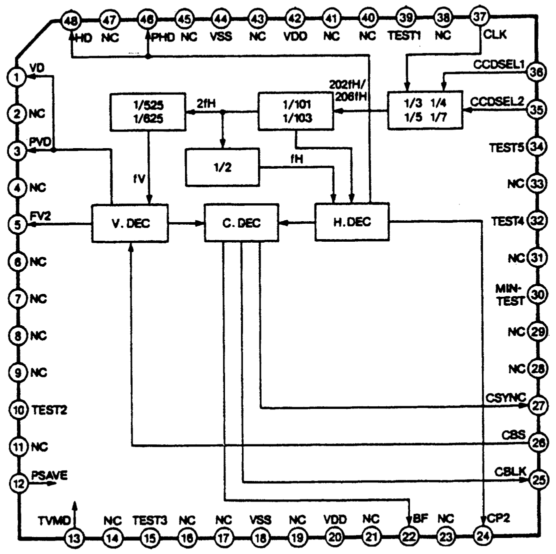
IC BLOCK

IC201 (VEFH42A)
(LOCATION: E-4)



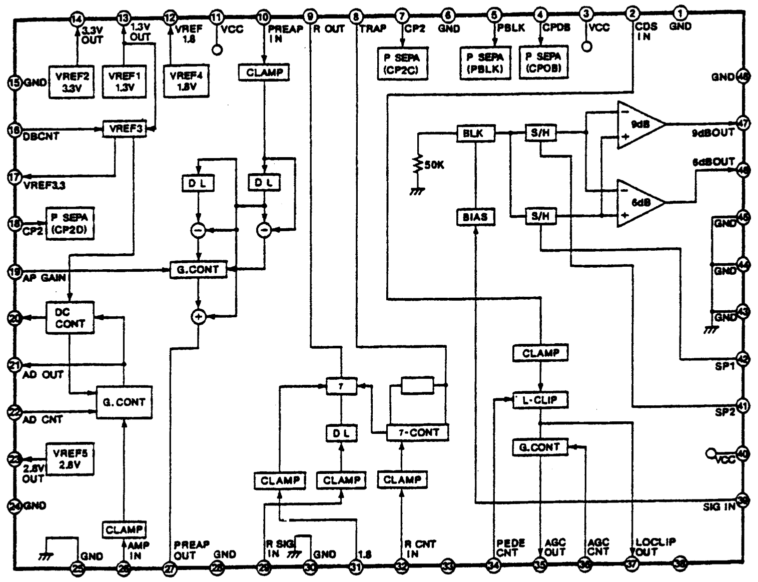
C1
RW0
RW1
ROUT
RCNT
H1
H2
VDD1
VDD
SUBCNT
VCTRL
VCC
C0
DS10
DS20
DCLK
CS
CSEL1
CSEL2
ADCLK
P/NSW
DATA
DIS SW
2FCKIN
AN1358S
2SD2216
15V
18V
V1
V2
-8V
SUB (TOTP)
SUBOUT
V4
V3
GND
PBLK CNT
MLD SW
TC6186-3-W
MB87882
CLKO
PBLK
CPOB
A1
A0
HCLR
DCP1
DCP2
HD
VD
FH2B
CCD SW

IC202 (MN5225)
(LOCATION: B-5)



HD
PHD
VSS
VDD
TEST1
CLK
VD
PVD
FV2
TEST2
PSAVE
TVMD
TEST3
CCDSEL1
CCDSEL2
TEST5
TEST4
MIN-TEST
CSYNC
CBS
CBLK
BF
CP2
1/525 1/625
2fH
1/101 1/103
202fH/206fH
1/3 1/4 1/5 1/7
1/2
fH
fV
V.DEC
C.DEC
H.DEC

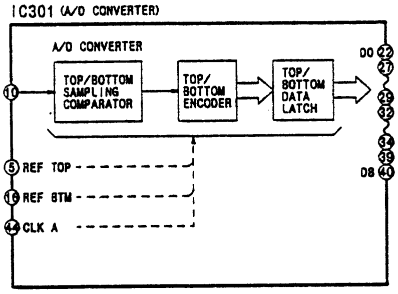
IC203 (MN2038FAQ)
(LOCATION: B-7)



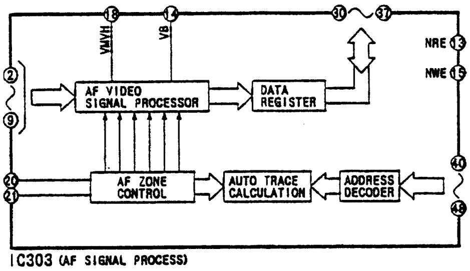
3.3V OUT
1.3V OUT
VREF 1.8
VCC
PREAP IN
R OUT
TRAP
CP2
GND
PBLK
CPOB
VCC
CDS IN
GND
VREF2 3.3V
VREF1 1.3V
VREF4 1.8V
CLAMP
P SEPA (CP2C)
P SEPA (PBLK)
P SEPA (CPOB)
DBCNT
VREF3
VREF3.3
P SEPA (CP2D)
AP GAIN
DC CONT
AD OUT
AD CNT
G.CONT
VREF5 2.8V
2.8V OUT
DL
7-CONT
BLK
S/H
BIAS
9dB
6dB
9dBOUT
6dBOUT
SP1
SP2
L-CLIP
SIG IN
PREAP OUT
R SIG IN
R CNT IN
PEDE CNT
AGC OUT
AGC CNT
LOCLIP OUT
AMP IN

IC BLOCK

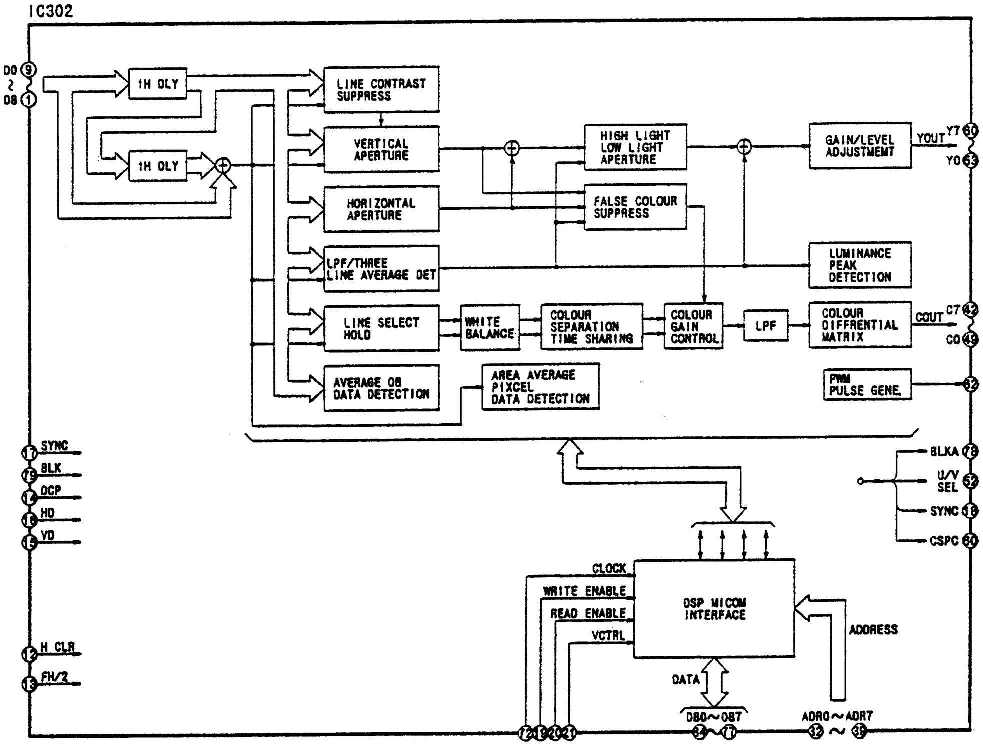
IC301 (MN65761T)
(LOCATION: F-4)


IC301 (A/D CONVERTER)
A/D CONVERTER
TOP/BOTTOM SAMPLING COMPARATOR
TOP/BOTTOM ENCODER
TOP/BOTTOM DATA LATCH
10
5 REF TOP
16 REF BTM
44 CLK A
D0 22
27
29
32
34
39
D8 40

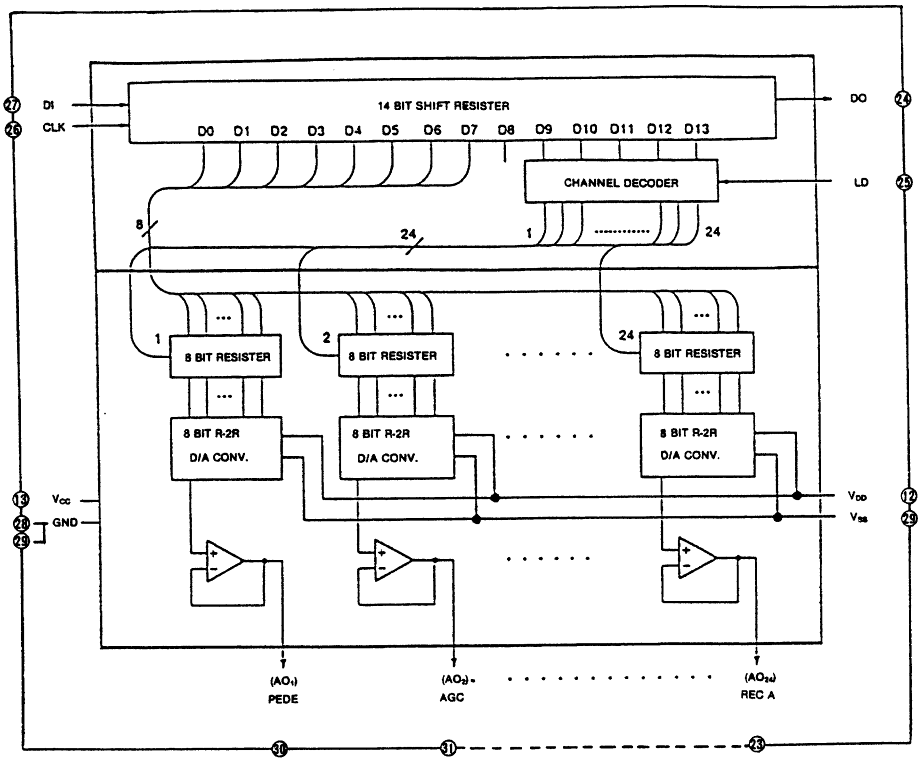
IC303 (TC9074F)
(LOCATION: C-7)


18
14
30 ~ 37
VMVH
VB
NRE 13
NWE 15
2
9
AF VIDEO SIGNAL PROCESSOR
DATA REGISTER
20
21
AF ZONE CONTROL
AUTO TRACE CALCULATION
ADDRESS DECODER
40
48
IC303 (AF SIGNAL PROCESS)

IC302 (CF45814PN)
(LOCATION: F-7)

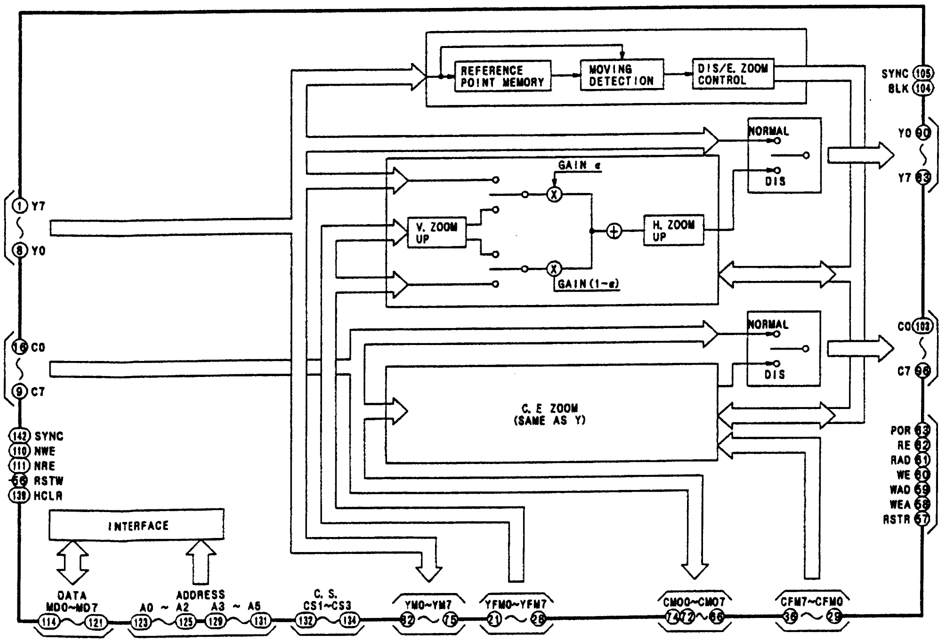

IC302
D0 9
D8 1
1H DLY
1H DLY
LINE CONTRAST SUPPRESS
VERTICAL APERTURE
HORIZONTAL APERTURE
LPF/THREE LINE AVERAGE DET
LINE SELECT HOLD
AVERAGE OB DATA DETECTION
HIGH LIGHT LOW LIGHT APERTURE
FALSE COLOUR SUPPRESS
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
COLOUR GAIN CONTROL
LPF
AREA AVERAGE PIXCEL DATA DETECTION
GAIN/LEVEL ADJUSTMEMT
YOUT
Y7 60
Y0 53
LUMINANCE PEAK DETECTION
COLOUR DIFFRENTIAL MATRIX
COUT
C7 42
C0 49
PWM PULSE GENE.
82
17 SYNC
79 BLK
14 DCP
16 HD
15 VD
12 H CLR
13 FH/2
BLKA 78
U/V SEL 52
SYNC 18
CSPC 80
CLOCK
WRITE ENABLE
READ ENABLE
VCTRL
DSP MICOM INTERFACE
ADDRESS
DATA
DB0~DB7
ADR0~ADR7
72 19 20 21
34 ~ 17
32 ~ 39

IC304 (MB883451PFBND)
(LOCATION: B-5)



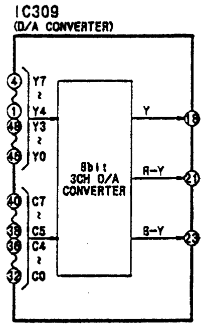
DI
CLK
14 BIT SHIFT RESISTER
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13
DO
CHANNEL DECODER
LD
8
24
1
24
1
2
24
8 BIT RESISTER
8 BIT R-2R D/A CONV.
Vcc
GND
VDD
VSS
(AO1) PEDE
(AO2) AGC
(AO24) REC A
27
26
13
28
29
24
25
12
29
30
31
23

IC306 (L7A1362)
(LOCATION: F-11)



REFERENCE POINT MEMORY
MOVING DETECTION
DIS/E. ZOOM CONTROL
SYNC 105
BLK 104
NORMAL
DIS
Y0 90
Y7 83
GAIN α
V. ZOOM UP
H. ZOOM UP
GAIN (1−α)
1 Y7
8 Y0
16 C0
9 C7
NORMAL
DIS
C0 103
C7 96
C. E ZOOM (SAME AS Y)
142 SYNC
110 NWE
111 NRE
56 RSTW
139 HCLR
POR 63
RE 62
RAD 61
WE 60
WAD 59
WEA 58
RSTR 57
INTERFACE
DATA MD0~MD7 114~121
ADDRESS A0 ~ A2 123~125 A3 ~ A6 129~131
C. S. CS1~CS3 132~134
YM0~YM7 82~75
YFM0~YFM7 21~28
CM00~CM07 74 72~66
CFM7~CFM0 36~29

IC309 (MN65703T)
(LOCATION: C-21)

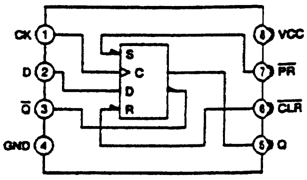


IC309
(D/A CONVERTER)
4 Y7
1 Y4
48 Y3
46 Y0
40 C7
38 C5
36 C4
32 C0
8bit 3CH D/A CONVERTER
Y 18
R−Y 21
B−Y 23

IC312 (TC7W74FU)
(LOCATION: B-29)

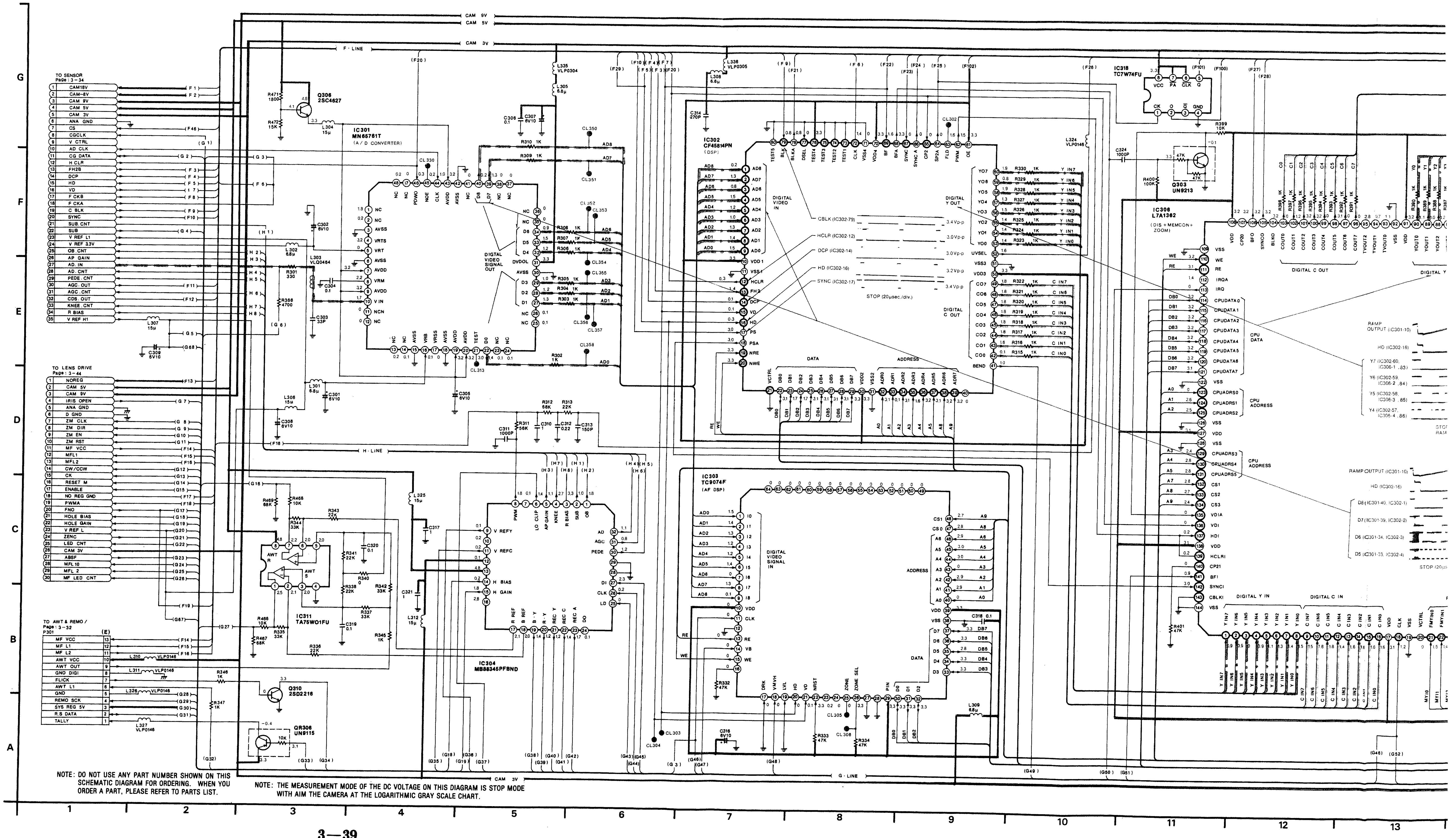
IC313 (TC7W74FU)
(LOCATION: A-29)

IC318 (TC7W74FU)
(LOCATION: G-11)



CK 1
D 2
Q̄ 3
GND 4
S
C
D
R
8 VCC
7 PR̄
6 CLR̄
5 Q

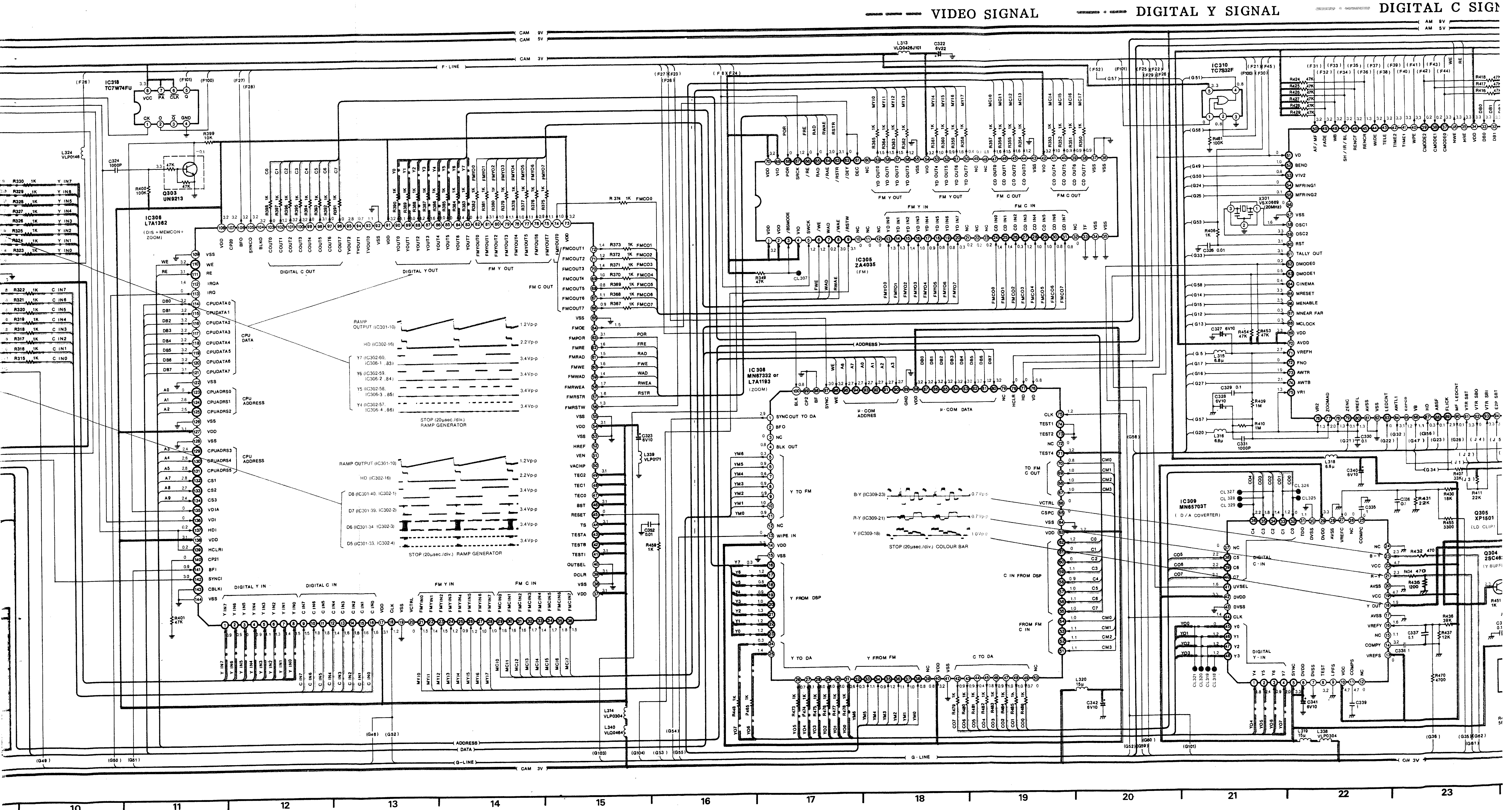
3-19. PROCESS SCHEMATIC DIAGRAM

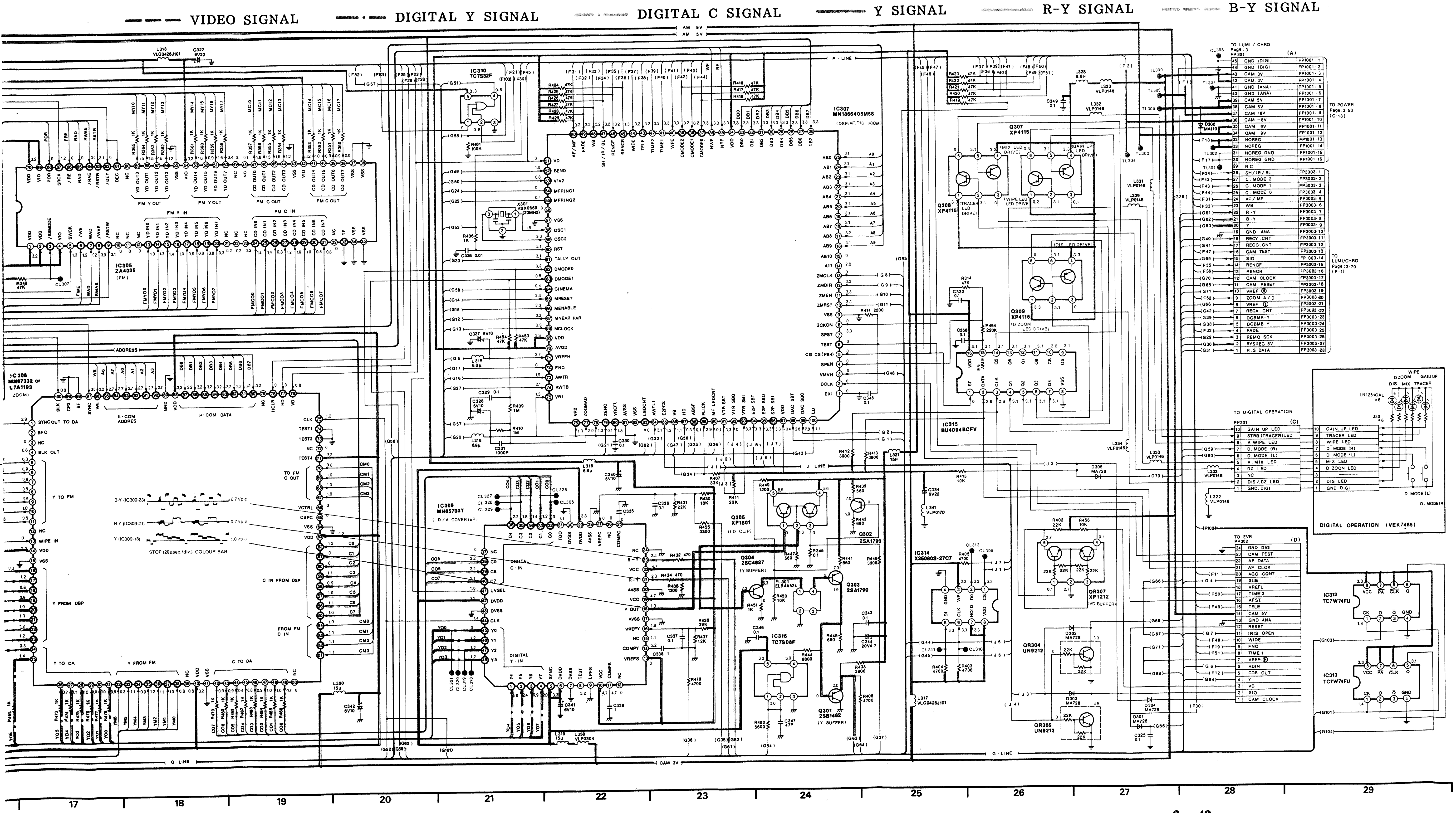


CAM 9V
CAM 5V
CAM 3V
F-LINE
H-LINE
G-LINE
TO SENSOR Page: 3-34
TO LENS DRIVE Page: 3-44
TO AWT & REMO / Page: 3-32 P301
Q306 2SC4627
IC301 MN65761T (A/D CONVERTER)
IC302 CF45814PN (DSP)
IC303 TC9074F (AF DSP)
IC304 MB88345PFBND
IC311 TA75W01FU
IC318 TC7W74FU
IC306 L7A1362 (DIS + MEMCON + ZOOM)
Q303 UN9213
Q310 2SD2216
QR306 UN9115
DIGITAL VIDEO SIGNAL OUT
DIGITAL VIDEO IN
DIGITAL Y OUT
DIGITAL C OUT
DIGITAL VIDEO SIGNAL IN
DIGITAL Y IN
DIGITAL C IN
CPU DATA
CPU ADDRESS
DATA
ADDRESS
CBLK (IC302-79)
HCLR (IC302-12)
DCP (IC302-14)
HD (IC302-16)
SYNC (IC302-17)
STOP (20μsec./div.)
RAMP OUTPUT (IC301-10)
HD (IC302-16)
RAMP OUTPUT (IC301-10)
HD (IC302-16)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGN
CAM 9V
CAM 5V
CAM 3V
F-LINE
G-LINE
ADDRESS
DATA
IC318 TC7W74FU
Q303 UN9213
IC306 L7A1362 (DIS+MEMCON+ZOOM)
DIGITAL C OUT
DIGITAL Y OUT
FM Y OUT
FM C OUT
CPU DATA
CPU ADDRESS
DIGITAL Y IN
DIGITAL C IN
FM Y IN
FM C IN
RAMP OUTPUT (IC301-10)
HD (IC302-16)
STOP (20μsec./div.) RAMP GENERATOR
IC305 ZA4035 (FM)
IC308 MN87332 or L7A1193 (ZOOM)
μ-COM ADDRES
μ-COM DATA
Y TO FM
TO FM C OUT
Y FROM DSP
C IN FROM DSP
FROM FM C IN
Y TO DA
Y FROM FM
C TO DA
B-Y (IC309-23)
R-Y (IC309-21)
Y (IC309-18)
STOP (20μsec./div.) COLOUR BAR
IC310 TC7S32F
X301 VSX0669 (20MHz)
IC309 MN65703T (D/A COVERTER)
DIGITAL C-IN
DIGITAL Y-IN
Q305 XP1501 (LD CLIP)
Q304 2SC45
10
11
12
13
14
15
16
17
18
19
20
21
22
23


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGNAL
B-Y SIGNAL
AM 9V
AM 5V
F - LINE
G - LINE
J - LINE
CAM 3V
ADDRESS
L313 VLQ0426J101
C322 6V22
IC305 ZA4035 (FM)
FM Y OUT
FM C OUT
FM Y IN
FM C IN
R349 47K
CL307
IC308 MN67332 or L7A1193 (ZOOM)
SYNCOUT TO DA
BFO
NC
BLK OUT
Y TO FM
WIPE IN
VDD
VSS
Y FROM DSP
Y TO DA
Y FROM FM
C TO DA
μ-COM ADDRES
μ-COM DATA
TO FM C OUT
C IN FROM DSP
FROM FM C IN
B-Y (IC309-23) 0.7Vp-p
R-Y (IC309-21) 0.7Vp-p
Y (IC309-18) 1.0Vp-p
STOP (20μsec./div.) COLOUR BAR
IC310 TC7S32F
R461 100K
X301 VSX0669 (20MHz)
R406 1K
C326 0.01
C327 6V10
R454 47K
R453 47K
L315 6.8μ
L316 6.8μ
C329 0.1
C328 6V10
R409 1M
R410 1M
C331 1000P
IC307 MN1866405M5S (DSP,AF,DIS,D.ZOOM)
R418 47K
R417 47K
R416 47K
R424 47K
R425 47K
R426 47K
R427 47K
R428 47K
R429 47K
R414 2200
C348 0.1
R412 3900
R413 3900
L321 15μ
IC309 MN65703T (D/A COVERTER)
CL327
CL328
CL329
CL326
CL325
DIGITAL C-IN
DIGITAL Y-IN
L318 6.8μ
C340 6V10
C336 0.1
R431 22K
R430 18K
R455 3300
R407 33K
R411 22K
C335
R432 470
R434 470
R435 1200
R436 39K
C337 0.1
R437 12K
C338 1
R470 4700
C339
C341 6V10
L320 15μ
C342 6V10
L319 15μ
L338 VLP0304
Q305 XP1501 (LO CLIP)
R449 1200
Q304 2SC4627 (Y BUFFER)
R447 560
R345 0.1
FL301 ELB4A524
R450 10K
R451 1K
R439 560
R443 680
Q302 2SA1790
R441 560
R448 3900
Q303 2SA1790
C343 0.1
C344 20V4.7
IC316 TC7S08F
C346 0.1
R444 6800
R445 680
R438 3900
R408 4700
Q301 2SB1462 (Y BUFFER)
R452 5600
C347 47P
C334 6V22
L341 VLP0170
R415 10K
IC314 X25080S-27C7
R405 4700
CL312
CL309
CL311
CL310
R404 4700
R403 4700
L317 VLQ0426J101
Q307 XP4115
Q308 XP4115
Q309 XP4115
(MIX LED DRIVE)
(GAIN UP LED DRIVE)
(TRACER LED DRIVE)
(WIPE LED DRIVE)
(DIS LED DRIVE)
(D ZOOM LED DRIVE)
R423 47K
R422 47K
R421 47K
R420 47K
R419 47K
L328 6.8μ
L323 VLP0146
L332 VLP0146
C349 0.1
R314 47K
C332 0.1
R464 220K
C358 0.1
IC315 BU4094BCFV
L331 VLP0146
L329 VLP0146
L334 VLP0146
L330 VLP0146
D305 MA728
TL309
TL305
TL306
TL307
TL303
TL304
TL302
TL301
CL308
D306 MA110
R402 22K
R456 10K
QR307 XP1212 (VD BUFFER)
QR304 UN9212
D302 MA728
QR305 UN9212
D303 MA728
D301 MA728
D304 MA728
C325 0.1
IC312 TC7W74FU
IC313 TC7W74FU
TO LUMI / CHRO Page : 3 FP301 (A)
45 GND (DIGI) FP1001-1
44 GND (DIGI FP1001-2
43 CAM.3V FP1001-3
42 CAM.3V FP1001-4
41 GND (ANA) FP1001-5
40 GND (ANA) FP1001-6
39 CAM 5V FP1001-7
38 CAM 5V FP1001-8
37 CAM 18V FP1001-9
36 CAM -8V FP1001-10
35 CAM 9V FP1001-11
34 CAM 9V FP1001-12
33 NOREG FP1001-13
32 NOREG FP1001-14
31 NOREG GND FP1001-15
30 NOREG GND FP1001-16
29 N C
28 SH/IR/BL FP3003-1
27 C.MODE 2 FP3003-2
26 C.MODE 1 FP3003-3
25 C.MODE 0 FP3003-4
24 AF/MF FP3003-5
23 WB FP3003-6
22 R-Y FP3003-7
21 B-Y FP3003-8
20 Y FP3003-9
19 GND ANA FP3003-10
18 RECY.CNT FP3003-11
17 RECC.CNT FP3003-12
16 CAM TEST FP3003-13
15 SIO FP 003-14
14 RENCF FP3003-15
13 RENCR FP3003-16
12 CAM CLOCK FP3003-17
11 CAM RESET FP3003-18
10 VREF Ⓗ FP3003-19
9 ZOOM A/D FP3003-20
8 VREF Ⓛ FP3003-21
7 RECA.CNT FP3003-22
6 DCBMR-Y FP3003-23
5 DCBMB-Y FP3003-24
4 FADE FP3003-25
3 REMO SCK FP3003-26
2 SYSREG 5V FP3003-27
1 R.S.DATA FP3003-28
TO POWER Page : 3-53 (C-13)
TO LUMI/CHRO Page : 3-70 (F-1)
TO DIGITAL OPERATION PP301 (C)
10 GAIN UP LED
9 STRB (TRACER) LED
8 A.WIPE.LED
7 D.MODE (R)
6 D.MODE (L)
5 A.MIX LED
4 DZ.LED
3 NC
2 DIS/DZ LED
1 GND.DIGI
L333 VLP0146
L322 VLP0146
10 GAIN UP LED
9 TRACER LED
8 WIPE LED
7 D.MODE (R)
6 D.MODE (L)
5 MIX LED
4 D.ZOON LED
3
2 DIS LED
1 GND DIGI
WIPE
D ZOOM
GAIU UP
DIS
MIX
TRACER
LN1251CAL ×6
330 ×6
D.MODE (L)
D.MODE (R)
DIGITAL OPERATION (VEK7485)
TO EVR PP302 (D)
24 GND DIGI
23 CAM TEST
22 AF DATA
21 AF CLOK
20 AGC CONT
19 SUB
18 VREFL
17 TIME 2
16 AFST
15 TELE
14 CAM 5V
13 GND ANA
12 RESET
11 IRIS OPEN
10 WIDE
9 FNO
8 TIME 1
7 VREF Ⓗ
6 ADIN
5 CDS OUT
4 Y
3 VD
2 SIO
1 CAM CLOCK
17
18
19
20
21
22
23
24
25
26
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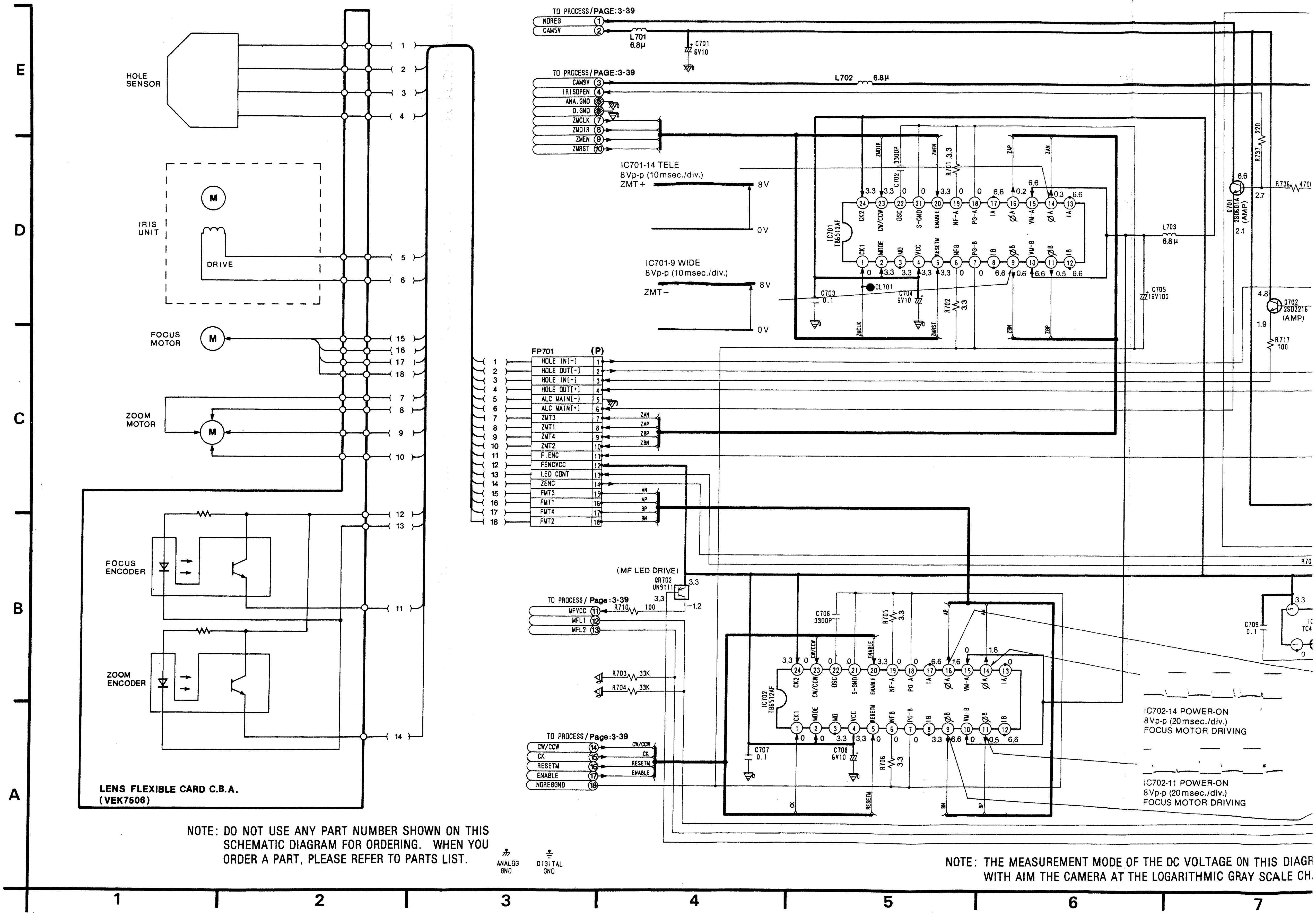
3-20. LENS DRIVE SCHEMATIC DIAGRAM

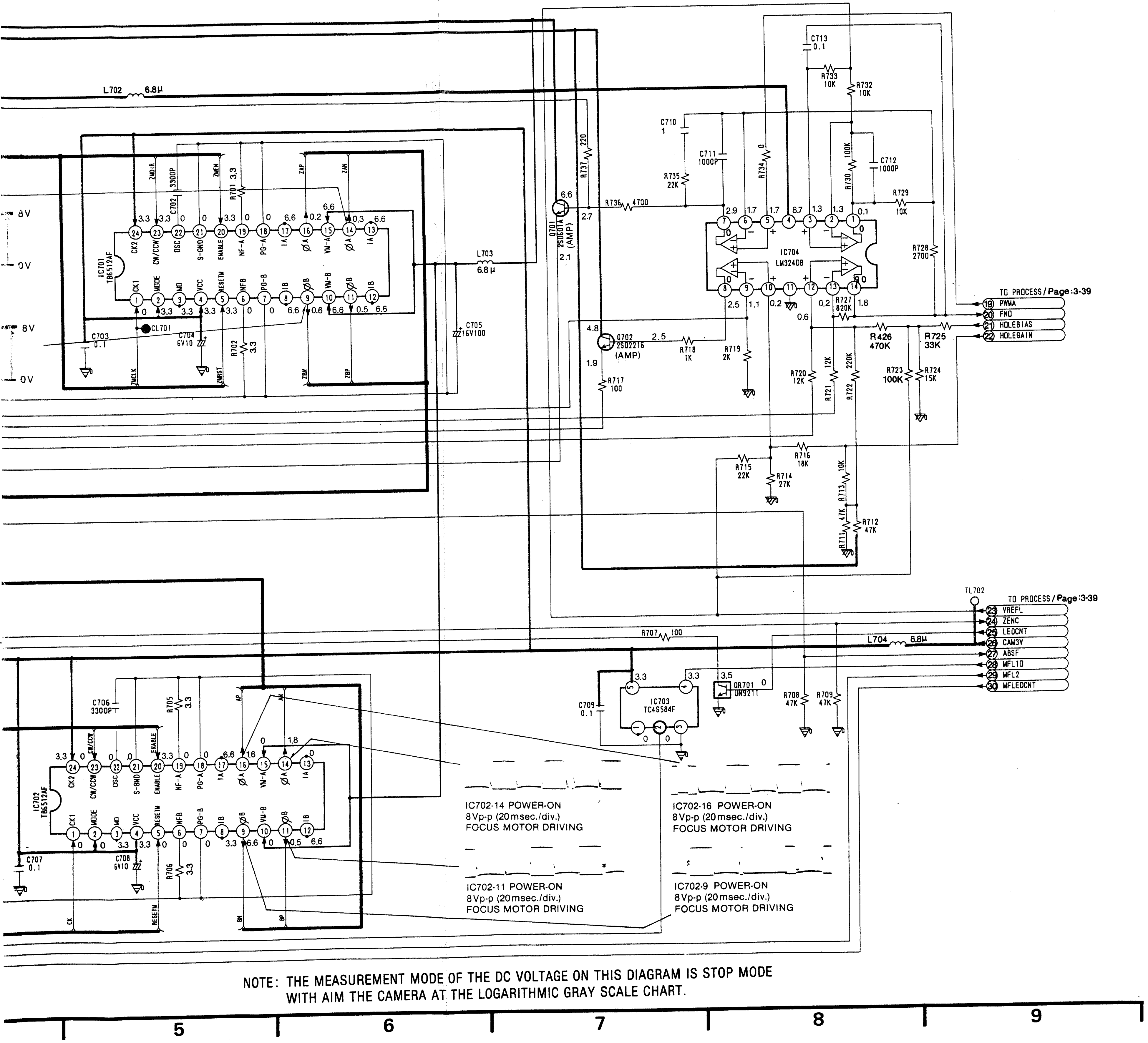

E
D
C
B
A
1
2
3
4
5
6
7
HOLE SENSOR
IRIS UNIT
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
LENS FLEXIBLE CARD C.B.A.
(VEK7506)
TO PROCESS/PAGE:3-39
NOREG
CAM5V
L701
6.8µ
C701
6V10
CAM5V
IRISOPEN
ANA.GND
D.GND
ZMCLK
ZMDIR
ZMEN
ZMRST
L702 6.8µ
IC701-14 TELE
8Vp-p (10msec./div.)
ZMT+
8V
0V
IC701-9 WIDE
8Vp-p (10msec./div.)
ZMT−
8V
0V
IC701
TB6512AF
CL701
C703
0.1
C704
6V10
R702
3.3
R701 3.3
C702 3300P
L703
6.8µ
C705
16V100
Q701
2SD601A
(AMP)
R737 220
R736
Q702
2SD2216
(AMP)
R717
100
FP701
(P)
HOLE IN(−)
HOLE OUT(−)
HOLE IN(+)
HOLE OUT(+)
ALC MAIN(−)
ALC MAIN(+)
ZMT3
ZMT1
ZMT4
ZMT2
F.ENC
FENCVCC
LED CONT
ZENC
FMT3
FMT1
FMT4
FMT2
ZAN
ZAP
ZBP
ZBN
AN
AP
BP
BN
(MF LED DRIVE)
QR702
UN9111
R710
100
TO PROCESS/ Page:3-39
MFVCC
MFL1
MFL2
R703 33K
R704 33K
TO PROCESS/ Page:3-39
CW/CCW
CK
RESETM
ENABLE
NOREGGND
C706
3300P
R705
3.3
C707
0.1
C708
6V10
R706
3.3
IC702
TB6512AF
C709
0.1
IC702-14 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-11 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
ANALOG GND
DIGITAL GND

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGR WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CH

Back Page:
PROCESS Section

LENS DRIVE Section


L702 6.8μ
IC701 TB6512AF
CK2
CW/CCW
OSC
S-GND
ENABLE
NF-A
PG-A
IA
ØA
VM-A
CK1
MODE
MO
VCC
RESETM
NFB
PG-B
IB
ØB
VM-B
ZMDIR
C702 3300P
ZMEN
R701 3.3
ZAP
ZAN
CL701
C703 0.1
C704 6V10
R702 3.3
ZMCLK
ZMRST
ZBN
ZBP
L703 6.8μ
C705 16V100
8V
0V
Q701 2SB601K (AMP)
R737 220
R736 4700
C710 1
C711 1000P
R735 22K
R734 0
C713 0.1
R733 10K
R732 10K
R730 100K
C712 1000P
R729 10K
R728 2700
IC704 LM324DB
R727 820K
R426 470K
R725 33K
Q702 2SD2216 (AMP)
R718 1K
R719 2K
R717 100
R720 12K
R721 12K
R722 220K
R723 100K
R724 15K
R715 22K
R716 18K
R714 27K
R713 10K
R711 47K
R712 47K
TO PROCESS/Page:3-39
PWMA
FNO
HOLEBIAS
HOLEGAIN
TL702
VREFL
ZENC
LEDCNT
CAM3V
ABSF
MFL10
MFL2
MFLEDCNT
L704 6.8μ
R707 100
IC703 TC4S584F
C709 0.1
QR701 UN9211
R708 47K
R709 47K
IC702 TB6512AF
C706 3300P
R705 3.3
C707 0.1
C708 6V10
R706 3.3
CK
RESETM
AP
AN
BN
BP
IC702-14 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-16 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-11 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-9 POWER-ON
8Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

Integrated Circuit

IC201	D-5
IC202	D-9
IC203	C-12
IC204	D-10
IC205	E-10
IC206	D-10
IC207	D-8
IC208	D-6
IC209	D-6
IC210	D-6
IC212	D-10
IC301	C-5
IC302	B-5
IC303	B-11
IC304	B-3
IC305	B-9
IC306	B-6
IC307	B-12
IC308	C-10
IC309	C-9
IC310	B-10
IC311	B-13
IC312	A-10
IC313	A-9
IC314	C-13
IC315	A-13
IC316	D-9
IC318	A-4
IC701	B-14
IC702	A-14
IC703	A-1
IC704	C-2

Transistor

Q201	D-12
Q202	C-3
Q203	C-3
Q205	D-11
Q206	D-11
Q207	D-11
Q301	D-9
Q302	D-9
Q303	D-9
Q304	D-9
Q305	D-8
Q306	B-11
Q307	B-13
Q308	B-2
Q309	B-2
Q310	A-1
Q701	C-13
Q702	C-14

Transistor & Resistor

QR303	B-10
QR304	B-12
QR305	B-3
QR306	B-13
QR307	C-3
QR701	A-2
QR702	A-1

Diode

D202	D-11
D203	D-11
D205	D-10
D206	D-11
D207	D-10
D208	D-11
D209	D-10
D210	D-11
D212	D-10
D301	A-13
D302	B-3
D303	B-3
D304	B-3
D305	B-8
D306	D-9

Test Point

CL201	D-7
CL202	C-3
CL203	C-4
CL204	C-4
CL205	C-4
CL206	B-4
CL207	D-6
CL208	E-7
CL209	D-6
CL210	E-6
CL302	A-5
CL303	B-3
CL304	B-5
CL305	A-5
CL306	A-5
CL307	B-7
CL309	C-3
CL310	C-3
CL311	C-3
CL312	C-3
CL313	B-5
CL318	C-6
CL320	C-6
CL321	C-6
CL323	C-6
CL324	C-6
CL325	C-7
CL326	C-7
CL327	C-7
CL328	C-7
CL329	C-6
CL330	C-4
CL350	C-5
CL351	C-5
CL352	C-5
CL353	C-5
CL354	C-5
CL355	B-5
CL356	B-5
CL357	B-4
CL358	B-5
CL701	C-1
TL301	D-7
TL302	D-7
TL303	D-7
TL304	D-7
TL305	D-7
TL306	D-7
TL307	D-7
TL308	D-7
TL309	D-7
TL702	A-2

Connector

FP301	D-7
FP701	C-13
P301	B-1
PP201	D-4
PP301	B-2
PP302	C-3

Crystal

X201	E-6
X301	A-13

Filter

FL201	C-3
FL202	C-10
FL203	D-10
FL301	C-7

Coil

L201	D-4
L202	D-12
L203	C-4
L204	D-11
L205	C-4
L206	C-4
L207	E-11
L208	E-10
L209	D-11
L210	E-11
L211	D-4
L212	D-4
L213	C-11
L214	E-9
L215	D-10
L216	E-10
L217	D-7
L218	E-9
L219	C-4
L223	D-4
L301	C-4
L302	C-4
L303	C-4
L304	B-11
L305	C-5
L306	B-11
L307	B-12
L308	B-4
L309	B-10
L310	B-1
L311	B-1
L312	B-2
L313	B-8
L314	B-8
L315	B-3
L316	B-3
L317	B-11
L318	C-9
L319	C-6
L320	C-5
L321	B-13
L322	B-2
L323	B-14
L324	B-11
L325	B-2
L326	B-1
L327	A-1
L328	B-14
L329	B-13
L330	B-2
L331	B-14
L332	B-2
L333	B-2
L334	B-2
L335	C-5
L336	B-3
L337	
L338	C-6
L339	B-7
L340	B-8
L341	B-12
L701	A-14
L702	B-14
L703	A-14
L704	A-2

Capacitor

C201	D-12
C202	C-12
C203	C-4
C204	C-4
C205	C-11
C206	C-11
C207	C-4
C208	C-11
C209	C-11
C210	B-11
C211	B-11
C213	C-12
C214	C-12
C215	C-12
C216	C-12
C217	C-12
C218	D-12
C219	D-11
C220	D-4
C221	D-12
C222	E-11
C223	D-11
C224	D-10

ADDRESS INFORMATION

CAMERA MAIN C.B.A.

Integrated Circuit	
IC201	D-5
IC202	D-9
IC203	C-12
IC204	D-10
IC205	E-10
IC206	D-10
IC207	D-8
IC208	D-6
IC209	D-6
IC210	D-6
IC212	D-10
IC301	C-5
IC302	B-5
IC303	B-11
IC304	B-3
IC305	B-9
IC306	B-6
IC307	B-12
IC308	C-10
IC309	C-9
IC310	B-10
IC311	B-13
IC312	A-10
IC313	A-9
IC314	C-13
IC315	A-13
IC316	D-9
IC318	A-4
IC701	B-14
IC702	A-14
IC703	A-1
IC704	C-2

Transistor	
Q201	D-12
Q202	C-3
Q203	C-3
Q205	D-11
Q206	D-11
Q207	D-11
Q301	D-9
Q302	D-9
Q303	D-9
Q304	D-9
Q305	D-8
Q306	B-11
Q307	B-13
Q308	B-2
Q309	B-2
Q310	A-1
Q701	C-13
Q702	C-14

Transistor & Resistor	
QR303	B-10
QR304	B-12
QR305	B-3
QR306	B-13
QR307	C-3
QR701	A-2
QR702	A-1

Diode	
D202	D-11
D203	D-11
D205	D-10
D206	D-11
D207	D-10
D208	D-11
D209	D-10
D210	D-11
D212	D-10
D301	A-13
D302	B-3
D303	B-3
D304	B-3
D305	B-8
D306	D-9

Test Point	
CL201	D-7
CL202	C-3
CL203	C-4
CL204	C-4
CL205	C-4
CL206	B-4
CL207	D-6
CL208	E-7
CL209	D-6
CL210	E-6
CL302	A-5
CL303	B-3
CL304	B-5
CL305	A-5
CL306	A-5
CL307	B-7
CL309	C-3
CL310	C-3
CL311	C-3
CL312	C-3
CL313	B-5
CL318	C-6
CL320	C-6
CL321	C-6
CL323	C-6
CL324	C-6
CL325	C-7
CL326	C-7
CL327	C-7
CL328	C-7
CL329	C-6
CL330	C-4
CL350	C-5
CL351	C-5
CL352	C-5
CL353	C-5
CL354	C-5
CL355	B-5
CL356	B-5
CL357	B-4
CL358	B-5
CL701	C-1
TL301	D-7
TL302	D-7
TL303	D-7
TL304	D-7
TL305	D-7
TL306	D-7
TL307	D-7
TL308	D-7
TL309	D-7
TL702	A-2

Connector	
FP301	D-7
FP701	C-13
P301	B-1
PP201	D-4
PP301	B-2
PP302	C-3

Crystal	
X201	E-6
X301	A-13

Filter	
FL201	C-3
FL202	C-10
FL203	D-10
FL301	C-7

Coil	
L201	D-4
L202	D-12
L203	C-4
L204	D-11
L205	C-4
L206	C-4
L207	E-11
L208	E-10
L209	D-11
L210	E-11
L211	D-4
L212	D-4
L213	C-11
L214	E-9
L215	D-10
L216	E-10
L217	D-7
L218	E-9
L219	C-4
L223	D-4
L301	C-4
L302	C-4
L303	C-4
L304	B-11
L305	C-5
L306	B-11
L307	B-12
L308	B-4
L309	B-10
L310	B-1
L311	B-1
L312	B-2
L313	B-8
L314	B-8
L315	B-3
L316	B-3
L317	B-11
L318	C-9
L319	C-6
L320	C-5
L321	B-13
L322	B-2
L323	B-14
L324	B-11
L325	B-2
L326	B-1
L327	A-1
L328	B-14
L329	B-13
L330	B-2
L331	B-14
L332	B-2
L333	B-2
L334	B-2
L335	C-5
L336	B-3
L337	
L338	C-6
L339	B-7
L340	B-8
L341	B-12
L701	A-14
L702	B-14
L703	A-14
L704	A-2

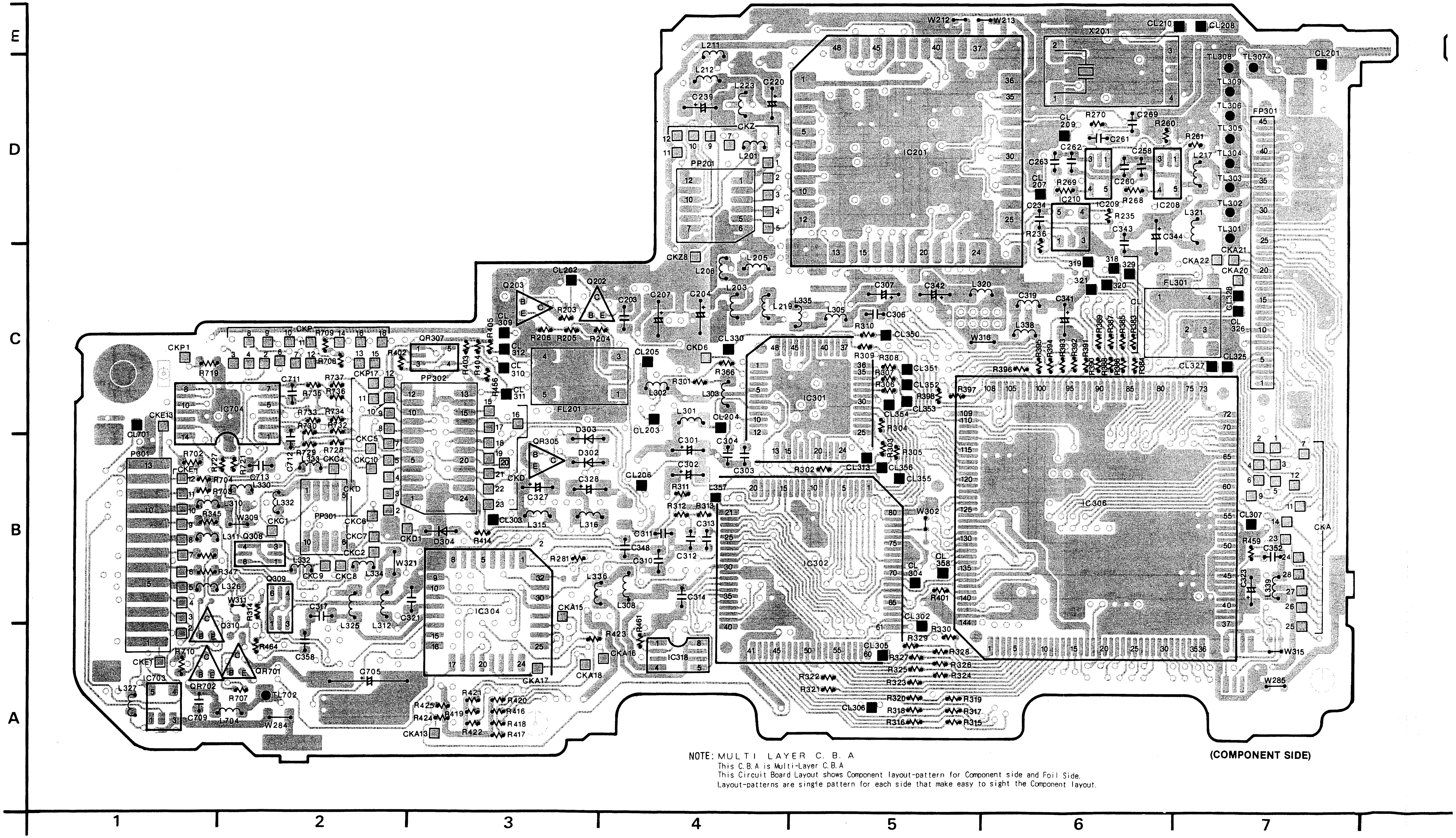
Capacitor	
C201	D-12
C202	C-12
C203	C-4
C204	C-4
C205	C-11
C206	C-11
C207	C-4
C208	C-11
C209	C-11
C210	B-11
C211	B-11
C213	C-12
C214	C-12
C215	C-12
C216	C-12
C217	C-12
C218	D-12
C219	D-11
C220	D-4
C221	D-12
C222	E-11
C223	D-11
C224	D-10
C225	D-11
C226	D-11
C227	D-11
C228	D-10
C229	D-11
C230	D-10
C231	D-11
C232	D-10
C234	D-6
C236	E-10
C237	E-11
C239	D-4
C241	D-9
C242	E-10
C243	D-10
C244	D-10
C245	D-10
C247	C-10
C248	D-10
C253	E-10
C254	D-9
C256	E-9
C258	D-6
C259	D-8
C260	D-6
C261	D-6
C262	D-6
C263	D-6
C264	E-9
C265	D-9
C266	D-8
C267	D-8
C268	D-8
C269	D-6
C271	D-11
C290	E-5
C301	B-4
C302	B-4
C303	B-4
C304	B-4
C305	B-11
C306	C-5
C307	C-5
C308	B-11
C309	B-12
C310	B-4
C311	B-4
C312	B-4
C313	B-4
C314	B-4
C316	A-11
C317	B-2
C318	A-11
C319	B-13
C320	B-14
C321	B-2
C322	B-8
C323	B-7
C324	B-10
C325	A-13
C326	B-13
C327	B-3
C328	B-3
C329	B-12
C330	C-13
C331	C-13
C332	A-13
C334	B-12
C335	C-9
C336	C-8
C337	C-8
C338	C-9
C339	C-9
C340	C-9
C341	C-6
C342	C-5
C343	D-6
C344	D-6
C345	C-8
C346	D-9
C347	C-9
C348	B-4
C349	B-14
C352	B-7
C358	A-2
C701	B-14
C702	B-14
C703	C-14
C704	C-14
C705	A-2
C706	A-14
C707	B-14
C708	B-14
C709	A-1
C710	B-13
C711	C-2
C712	B-2
C713	B-2

Resistor	
R201	D-12
R202	C-11
R203	C-3
R204	C-3
R205	C-3
R206	C-3
R207	C-12
R210	C-11
R211	C-11
R212	C-12
R213	C-11
R214	C-12
R215	C-13
R216	C-12
R217	C-13
R218	C-12
R219	C-12
R221	D-11
R222	D-11
R223	D-11
R224	D-11
R225	D-11
R226	D-11
R227	D-11
R228	D-11
R229	D-11
R230	D-11
R231	D-11
R232	D-11
R233	E-11
R234	E-11
R235	D-6
R236	D-6
R238	D-11
R239	D-11
R240	C-11
R241	C-10
R242	D-11
R243	C-11
R244	D-10
R245	D-10
R246	E-10
R247	D-10
R248	D-10
R249	D-10
R250	D-9
R251	D-10
R252	D-10
R253	D-10
R255	C-11
R256	D-10
R257	D-10
R258	D-10
R259	D-9
R260	D-6
R261	D-7
R262	D-10
R263	D-10
R264	C-10
R266	C-11
R267	D-9
R268	D-6
R269	D-6
R270	D-6
R271	D-9
R272	D-9
R273	D-9
R274	D-8
R275	D-8
R276	D-8
R277	D-10
R280	C-11
R281	B-3
R282	D-11
R301	C-4
R302	B-5
R303	B-5
R304	C-5
R305	B-5
R306	C-5
R307	C-5
R308	C-5
R309	C-5
R310	C-5
R311	B-4
R312	B-4
R313	B-4
R314	B-2
R315	A-5
R316	A-5
R317	A-5
R318	A-5
R319	A-5
R320	A-5
R321	A-5
R322	A-5
R323	A-5
R324	A-5
R325	A-5
R326	A-5
R327	A-5
R328	A-5
R329	A-5
R330	A-5
R332	A-10
R333	A-10
R334	A-11
R335	B-13
R336	B-13
R337	B-13
R338	B-13
R340	B-14
R341	B-14
R342	B-13
R343	B-14
R344	B-14
R345	B-1
R346	B-1
R347	B-1
R349	B-10
R350	A-9
R351	A-9
R352	A-9
R353	A-9
R354	A-9
R355	A-9
R356	A-9
R357	A-9
R358	A-9
R359	A-9
R360	A-9
R361	A-9
R362	A-9
R363	A-9
R364	A-9
R365	A-10
R366	C-4
R367	C-9
R368	B-9
R369	C-9
R370	B-9
R371	B-9
R372	B-9
R373	B-9
R374	B-9
R375	C-9
R376	B-9
R377	B-9
R378	B-9
R379	B-9
R380	B-9
R381	B-9
R382	B-9
R383	C-6
R384	C-6
R385	C-6
R386	C-6
R387	C-6
R388	C-6
R389	C-6
R390	C-6
R391	C-6
R392	C-6
R393	C-6
R394	C-6
R395	C-6
R396	C-6
R397	C-5
R398	C-5
R399	B-10
R400	B-10
R401	B-5
R402	C-2
R403	C-3
R404	C-3
R405	C-3
R406	B-13
R407	B-12
R408	C-9
R409	B-13
R410	B-13
R411	B-12
R412	B-12
R413	B-12
R414	B-3
R415	B-12
R416	A-3
R417	A-3
R418	A-3
R419	A-3
R420	A-3
R421	A-3
R422	A-3
R423	A-3
R424	A-3
R425	A-3
R426	A-13
R427	A-13
R428	A-13
R429	A-13
R430	C-9
R431	C-8
R432	C-9
R434	C-9
R435	C-8
R436	C-9
R437	C-8
R438	D-9
R439	D-9
R441	D-9
R443	C-9
R444	D-9
R445	C-9
R446	C-8
R447	C-8
R448	C-10
R449	D-8
R450	C-9
R451	C-9
R452	C-9
R453	B-13
R454	B-13
R455	B-9
R456	C-3
R459	B-7
R461	A-4
R464	A-2
R465	C-10
R466	B-13
R467	B-13
R468	B-14
R469	B-14
R470	C-8
R471	B-11
R472	B-11
R473	C-10
R474	C-10
R475	C-10
R476	C-10
R477	C-10
R478	C-10
R479	C-10
R480	C-10
R481	C-10
R482	C-10
R483	C-10
R484	C-10
R485	C-10
R486	C-10
R701	B-14
R702	B-1
R703	B-1
R704	B-1
R705	A-14
R706	B-14
R707	A-2
R708	C-2
R709	C-2
R710	A-1
R711	C-14
R712	C-14
R713	C-14
R714	C-14
R715	C-14
R716	C-14
R717	C-14
R718	C-14
R719	C-1
R720	B-14
R721	B-2
R722	C-14
R723	C-14
R724	C-14
R725	C-14
R726	C-14
R727	B-1
R728	B-2
R729	B-2
R730	C-2
R732	C-2
R733	C-2
R734	C-2
R735	C-2
R736	C-2
R737	C-2

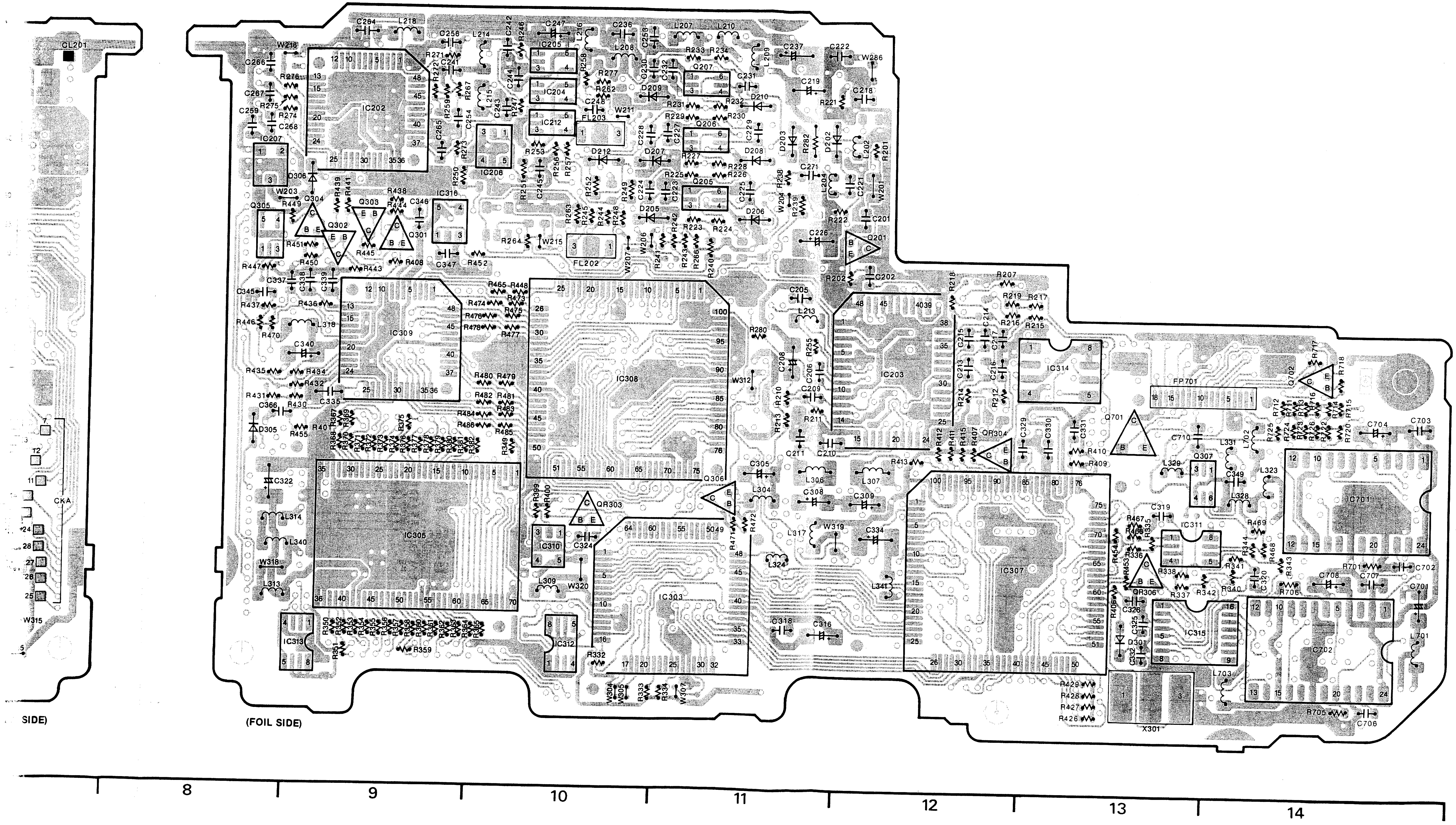
Wire	
W201	D-12
W203	D-8
W204	D-11
W206	C-10
W207	C-10
W211	D-10
W212	E-5
W213	E-6
W215	C-10
W216	D-8
W284	A-2
W285	A-5
W286	D-12
W302	B-5
W304	A-10
W305	A-10
W307	A-11
W309	B-2
W311	B-2
W312	C-11
W315	A-7
W316	C-5
W318	B-8
W319	B-11
W320	B-10
W321	B-2

ADDRESS INFORMATION

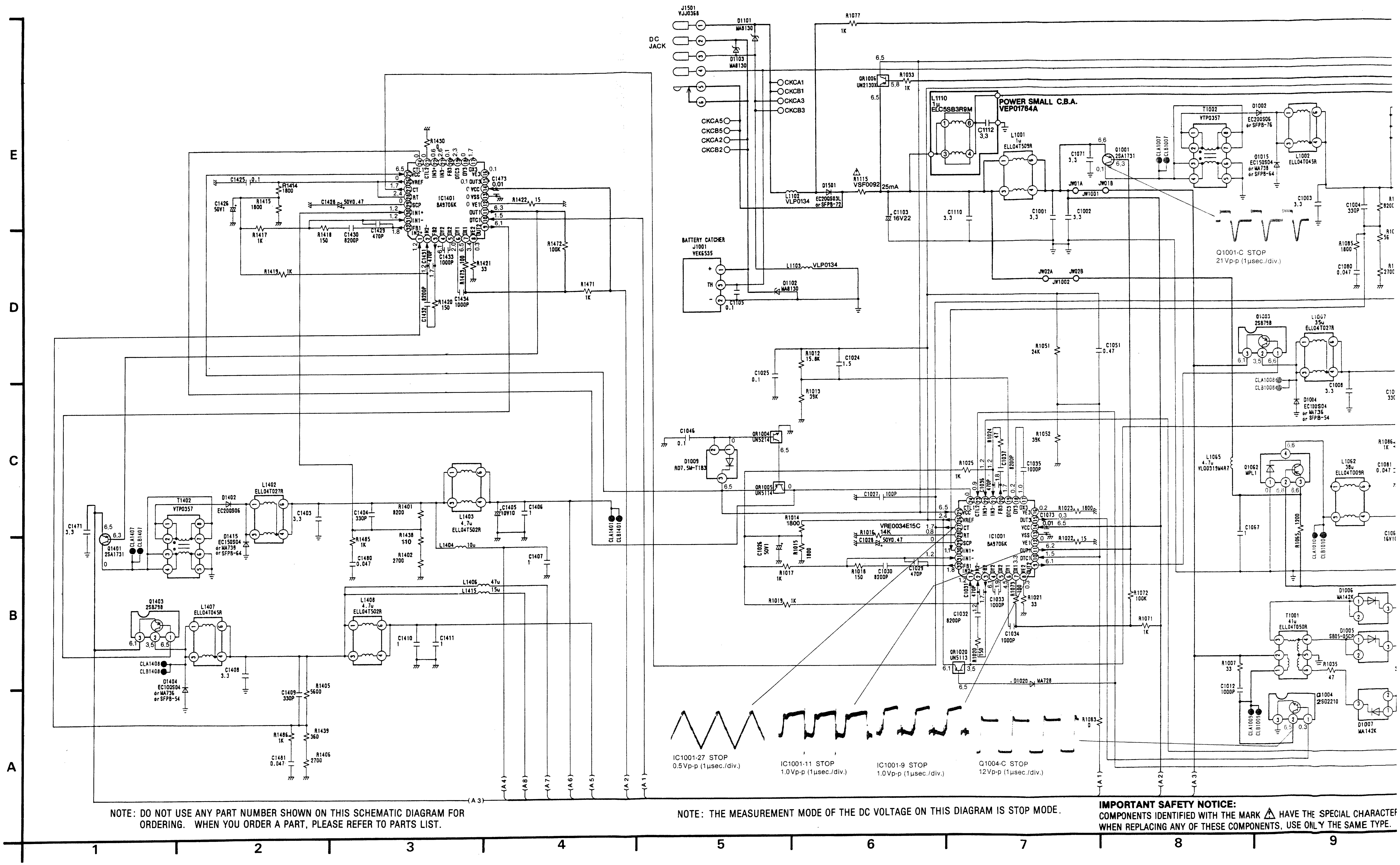
3-21. CAMERA MAIN [SENSOR, PROCESS, LENS DRIVE Section] C.B.A. (VEP23272A)


E
D
C
B
A
1
2
3
4
5
6
7
IC201
IC301
IC302
IC304
IC306
IC318
IC704
IC703
IC208
IC209
IC210
PP201
PP301
PP302
FL201
FL301
FP301
P001
X201
(COMPONENT SIDE)

NOTE: MULTI LAYER C. B. A
This C.B.A is Multi-Layer C.B.A
This Circuit Board Layout shows Component layout-pattern for Component side and Foil Side.
Layout-patterns are single pattern for each side that make easy to sight the Component layout.


CL201
CKA
W315
SIDE)
(FOIL SIDE)
IC202
IC207
IC205
IC204
IC212
IC208
IC316
FL203
FL202
Q207
Q206
Q205
Q201
Q301
Q302
Q303
Q304
Q305
Q306
Q307
Q701
Q702
QR303
QR304
QR306
IC309
IC308
IC203
IC314
FP701
IC305
IC310
IC303
IC307
IC311
IC701
IC315
IC702
IC313
IC312
X301
D305
D306
D301
8
9
10
11
12
13
14

3-22. POWER SCHEMATIC DIAGRAM



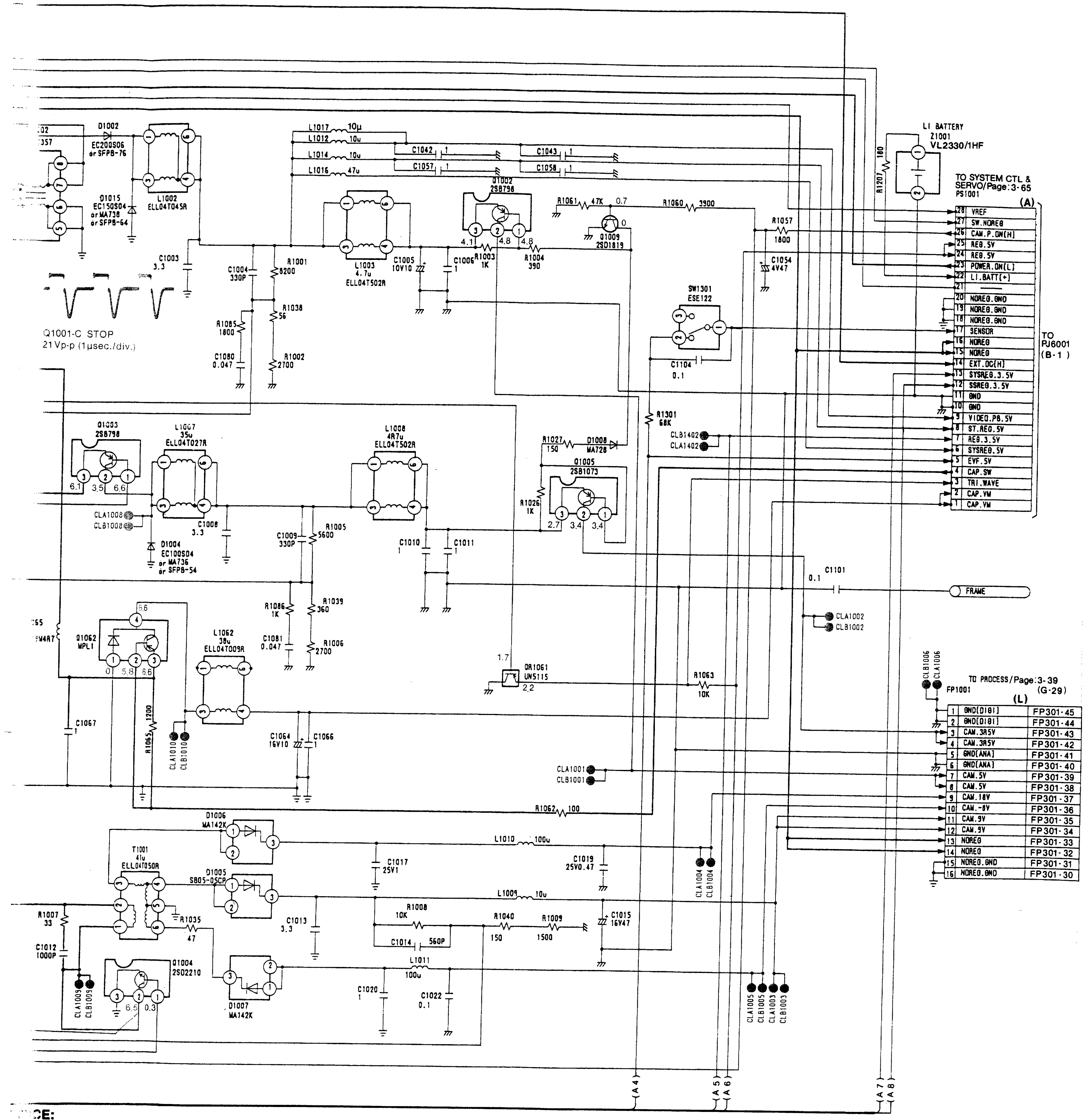
E
D
C
B
A
1
2
3
4
5
6
7
8
9
J1501
VJJ0368
DC JACK
D1101 MA8130
D1103 MA8130
CKCA1
CKCB1
CKCA3
CKCB3
CKCA5
CKCB5
CKCA2
CKCB2
R1077 1K
POWER SMALL C.B.A.
VEP01764A
L1110
ELC5SB3R9M
T1002 VTP0357
D1002 EC20QS06 or SFPB-76
Q1001 2SA1731
L1001 1u ELL04T509R
R1115 VSF0092
D1501 EC20QS03L or SFPB-72
L1102 VLP0134
BATTERY CATCHER J1001 VEK6535
L1103 VLP0134
D1102 MA8130
IC1401 BA9706K
IC1001 BA9706K
VRE0034E15C
T1402 VTP0357
D1402 EC20QS06
L1402 ELL04T027R
L1403 4.7u ELL04T502R
Q1401 2SA1731
Q1403 2SB798
L1407 ELL04T045R
L1408 4.7u ELL04T502R
D1404 EC10QS04 or MA736 or SFPB-54
D1415 EC15QS04 or MA736 or SFPB-64
QR1004 UN5214
QR1005 UN5114
QR1020 UN5113
D1009 RD7.5M-T1B3
D1020 MA728
Q1003 2SB798
L1007 35u ELL04T027R
D1004 EC10QS04 or MA736 or SFPB-54
L1065 4.7u VLQ0319M4R7
D1062 MPL1
L1062 38u ELL04T009R
T1001 41u ELL04T050R
D1006 MA142K
D1005 SB05-05CP
Q1004 2SD2210
D1007 MA142K
Q1001-C STOP
21Vp-p (1μsec./div.)
IC1001-27 STOP
0.5Vp-p (1μsec./div.)
IC1001-11 STOP
1.0Vp-p (1μsec./div.)
IC1001-9 STOP
1.0Vp-p (1μsec./div.)
Q1004-C STOP
12Vp-p (1μsec./div.)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTER
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Back Page:
CAMERA MAIN C.B.A. Section


D1002
EC200S06
or SFPB-76
D1015
EC150S04
or MA738
or SFPB-64
L1002
ELL04T045R
C1003
3.3
Q1001-C STOP
21Vp-p (1µsec./div.)
C1004
330P
R1001
8200
R1038
56
R1085
1800
C1080
0.047
R1002
2700
L1017 10µ
L1012 10u
L1014 10u
L1016 47u
C1042 1
C1057 1
C1043 1
C1058 1
L1003
4.7u
ELL04T502R
C1005
10V10
C1006 1
R1003
1K
R1004
390
Q1002
2SB798
4.1
4.8
4.8
R1061 47K
0.7
Q1009
2SD1819
0
R1060 3900
R1057
1800
C1054
4V47
SW1301
ESE122
C1104
0.1
R1301
68K
CLB1402
CLA1402
R1207 180
LI BATTERY
Z1001
VL2330/1HF
TO SYSTEM CTL &
SERVO/Page:3-65
PS1001
(A)
28 VREF
27 SW.NOREG
26 CAM.P.ON(H)
25 REG.5V
24 REG.5V
23 POWER.ON(L)
22 LI.BATT(+)
21 —
20 NOREG.GND
19 NOREG.GND
18 NOREG.GND
17 SENSOR
16 NOREG
15 NOREG
14 EXT.DC(H)
13 SYSREG.3.5V
12 SSREG.3.5V
11 GND
10 GND
9 VIDEO.PB.5V
8 ST.REG.5V
7 REG.3.5V
6 SYSREG.5V
5 EVF.5V
4 CAP.SW
3 TRI.WAVE
2 CAP.VM
1 CAP.VM
TO
PJ6001
(B-1)
Q1003
2SB798
6.1
3.5
6.6
L1007
35u
ELL04T027R
CLA1008
CLB1008
D1004
EC100S04
or MA736
or SFPB-54
C1008
3.3
C1009
330P
R1005
5600
L1008
4R7u
ELL04T502R
C1010
1
C1011
1
R1027
150
D1008
MA728
Q1005
2SB1073
R1026
1K
2.7
3.4
3.4
C1101
0.1
FRAME
CLA1002
CLB1002
R1086
1K
R1039
360
C1081
0.047
R1006
2700
Q1062
MPL1
6.6
0
5.8
6.6
L1062
38u
ELL04T009R
1.7
QR1061
UN5115
2.2
R1063
10K
C1067
1
R1065 1200
CLA1010
CLB1010
C1064
16V10
C1066
1
CLA1001
CLB1001
R1062 100
CLB1006
CLA1006
TO PROCESS/Page:3-39
FP1001
(G-29)
(L)
1 GND(DIGI) FP301-45
2 GND(DIGI) FP301-44
3 CAM.3R5V FP301-43
4 CAM.3R5V FP301-42
5 GND(ANA) FP301-41
6 GND(ANA) FP301-40
7 CAM.5V FP301-39
8 CAM.5V FP301-38
9 CAM.18V FP301-37
10 CAM.-8V FP301-36
11 CAM.9V FP301-35
12 CAM.9V FP301-34
13 NOREG FP301-33
14 NOREG FP301-32
15 NOREG.GND FP301-31
16 NOREG.GND FP301-30
D1006
MA142K
T1001
41u
ELL04T050R
D1005
SB05-05CP
R1035
47
R1007
33
C1012
1000P
C1017
25V1
L1010 100u
C1019
25V0.47
CLA1004
CLB1004
L1009 10u
C1013
3.3
R1008
10K
C1014 560P
R1040
150
R1009
1500
C1015
16V47
L1011
100u
C1020
1
C1022
0.1
Q1004
2SD2210
6.5
0.3
D1007
MA142K
CLA1005
CLB1005
CLA1003
CLB1003
(A4)
(A5)
(A6)
(A7)
(A8)
9
10
11
12
13

CE:

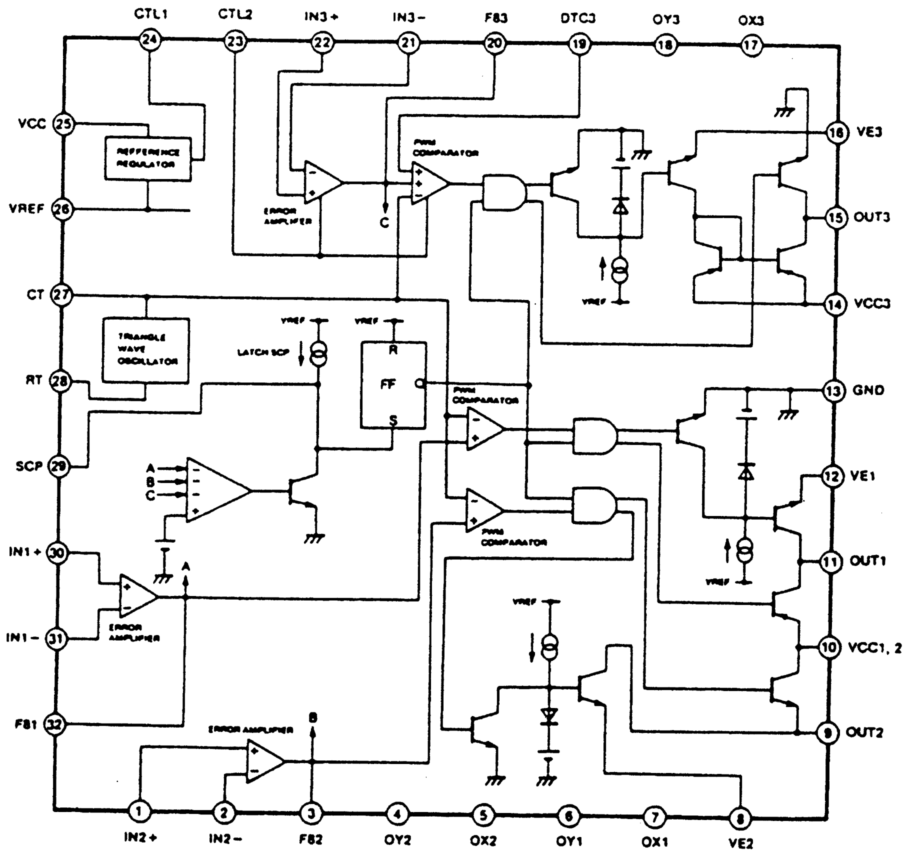
THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.

COMPONENTS, USE ONLY THE SAME TYPE.

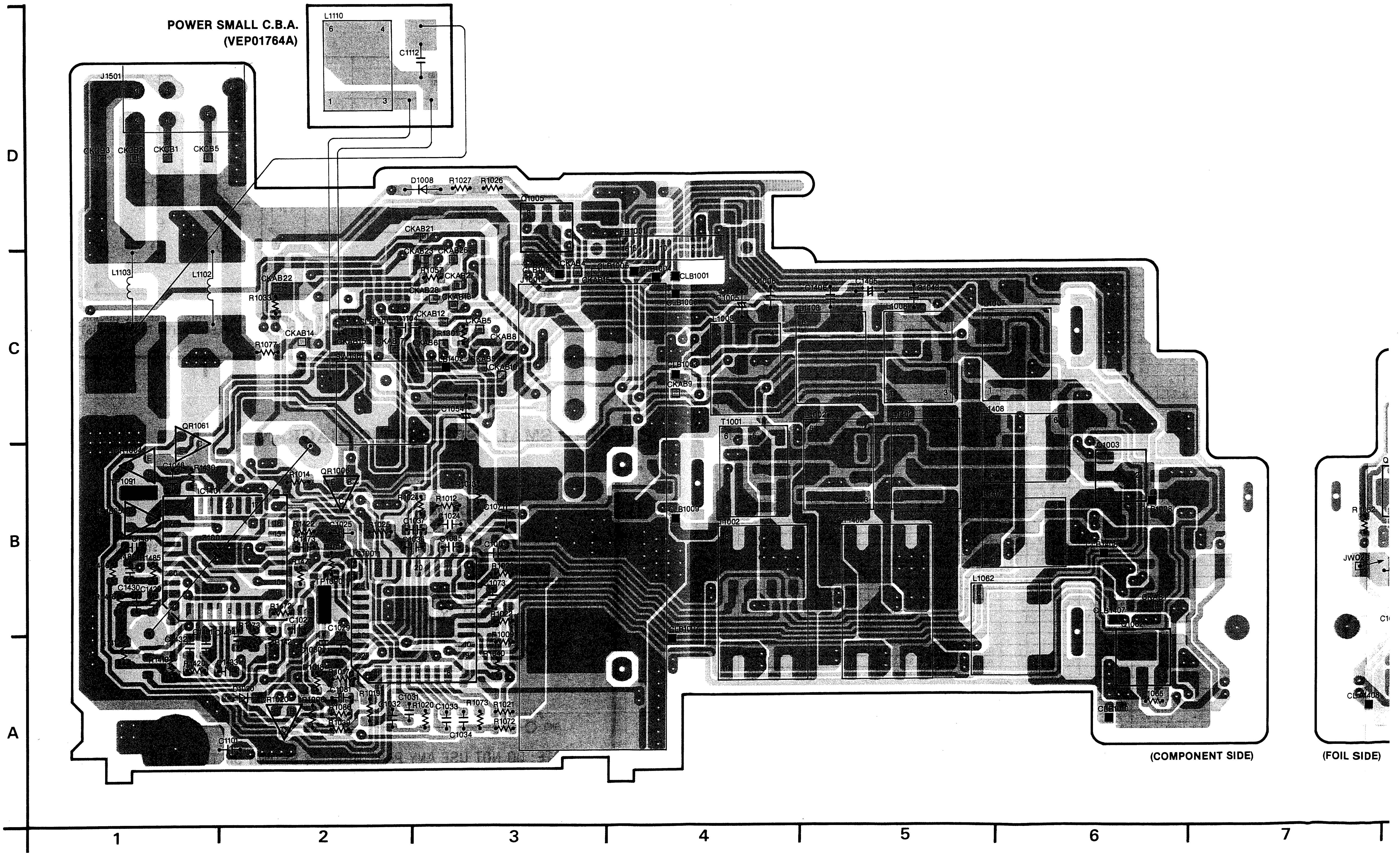
IC BLOCK

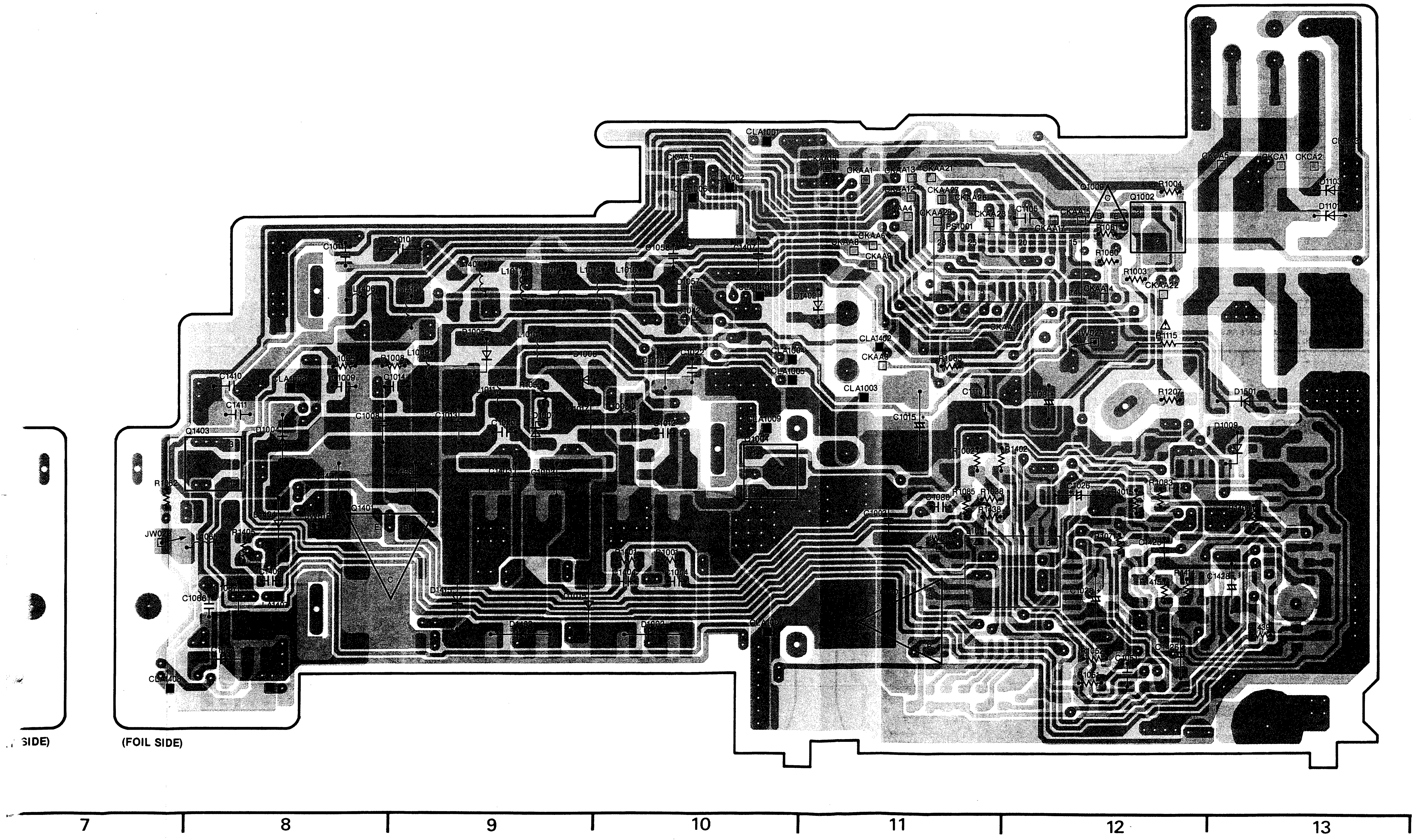
IC1001 (BA9706K)
(LOCATION: B-7)

IC1401 (BA9706K)
(LOCATION: E-3)


CTL1
CTL2
IN3+
IN3−
FB3
DTC3
OY3
OX3
VCC
VREF
CT
RT
SCP
IN1+
IN1−
FB1
VE3
OUT3
VCC3
GND
VE1
OUT1
VCC1, 2
OUT2
IN2+
IN2−
FB2
OY2
OX2
OY1
OX1
VE2
REFERENCE REGULATOR
TRIANGLE WAVE OSCILLATOR
ERROR AMPLIFIER
PWM COMPARATOR
LATCH SCP
FF
R
S
A
B
C

3-23. POWER C.B.A. (VEP01638B)

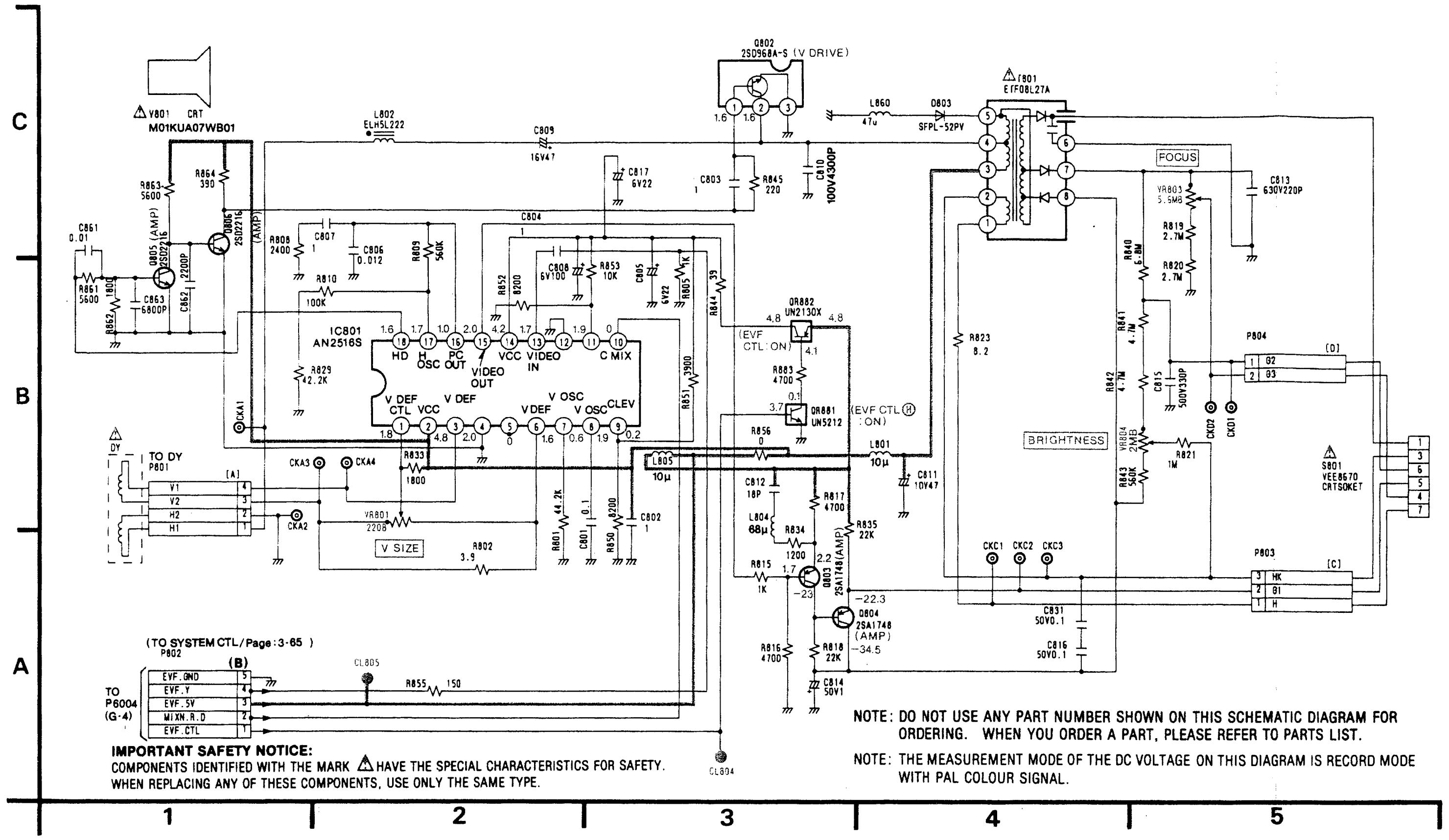

POWER SMALL C.B.A.
(VEP01764A)
L1110
C1112
J1501
CKCB3
CKCB2
CKCB1
CKCB5
L1103
L1102
D1008
R1027
R1026
CKAB21
CKAB22
CKAB23
CKAB26
CKAB28
CKAB12
CKAB14
CKAB5
CKAB8
CKAB9
R1033
R1077
R1057
QR1061
QR1001
IC1401
IC1001
T1001
L1062
R1014
R1012
R1024
R1021
R1072
R1073
R1020
C1031
C1033
C1034
C1101
CLB1001
CLB1009
1408
L1003
L1009
C1005
(COMPONENT SIDE)
(FOIL SIDE)
A
B
C
D
1
2
3
4
5
6
7



POWER C.B.A.	
Transistor	
Q1001	B-11
Q1002	D-12
Q1003	B-6
Q1004	B-10
Q1005	D-3
Q1009	D-12
Q1062	A-6
Q1401	B-8
Q1403	B-8
Transistor & Resistor	
QR1004	B-1
QR1005	B-1
QR1006	B-2
QR1020	A-2
QR1061	C-1
Integrated Circuit	
IC1001	B-2
IC1401	B-1
Test Point	
CLA1001	D-10
CLA1002	D-10
CLA1003	C-11
CLA1004	C-10
CLA1005	C-10
CLA1006	D-10
CLA1007	A-10
CLA1008	C-8
CLA1009	B-10
CLA1010	A-8
CLA1401	C-10
CLA1402	C-11
CLA1407	B-8
CLA1408	B-7
CLB1001	C-4
CLB1002	C-3
CLB1003	C-4
CLB1004	C-4
CLB1005	C-4
CLB1006	C-4
CLB1007	B-4
CLB1008	B-6
CLB1009	B-4
CLB1010	A-6
CLB1401	C-2
CLB1402	C-3
CLB1407	B-6
CLB1408	B-6
TP1090	B-2
TP1091	B-1
Connector	
FP1001	D-4
J1501	D-1
PS1001	C-11

ADDRESS INFORMATION

3-24. EVF SCHEMATIC DIAGRAM


V801 CRT
M01KUA07WB01
L802 ELH5L222
Q802 2SD968A-S (V DRIVE)
T801 ETF08L27A
FOCUS
BRIGHTNESS
IC801 AN2516S
HD
H OSC
PC OUT
VCC
VIDEO OUT
VIDEO IN
C MIX
V DEF CTL
VCC
V DEF
V OSC
VDEF
V OSC
CLEV
Q805 (AMP)
2SD2216
QR882 UN2130X
EVF CTL ON
QR881 UN5212
EVF CTL H : ON
Q803 2SA1748 (AMP)
Q804 2SA1748 (AMP)
V SIZE
VR801
TO DY
P801
P802
P803
P804
S801 VEE8670 CRTSOKET
(TO SYSTEM CTL / Page: 3-65)
TO P6004 (G-4)
EVF GND
EVF Y
EVF 5V
MIXN.R.D
EVF CTL
CL805
CL804
CKA1
CKA2
CKA3
CKA4
CKC1
CKC2
CKC3
CKD1
CKD2
A
B
C
1
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4
5

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

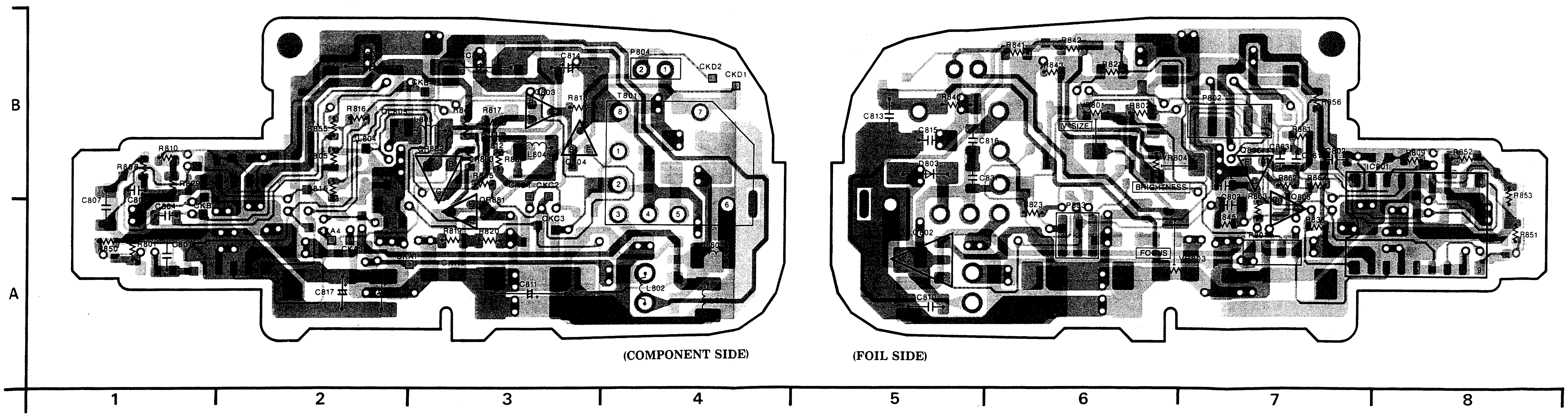
SYSTEM CONRTROL & SERVO TRs DC VOLTAGE CHART

REF. NO.	Q6002			Q6004			Q6005						Q6006			Q6008		
MODE	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B	E	C	B
STOP	0.1	6.6	0	3.0	6.6	0.2	0.1	0.1	4.6	0.1	0.1	4.4	0.8	0	0	3.8	0.4	0
REC/PLAY	0.1	6.6	0	0.8	2.0	0.8	0	0.1	4.6	0.1	0.1	4.4	0.6	0	0	3.8	3.8	0
F.F	1.4	6.4	1.7	3.0	3.8	0.7	0	0	4.6	0.2	0.1	4.4	0.8	0	0	3.8	3.8	0
REF. NO.	Q6009			Q6015			Q6201											
MODE	E	C	B	E	C	B	E	C	B									
STOP	1.7	3.4	0.1	0.8	0	2.6	3.8	3.8	3.3									
REC/PLAY	1.8	1.9	0.1	0.8	0	0	3.8	3.8	3.3									
F.F	1.6	0.7	0.1	0.8	0	0	3.8	3.8	3.2									
REF. NO.	QR6001			QR6002			QR6003			QR6004						QR6005		
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B
STOP	4.9	0.1	4.9	0	3.8	0	3.4	0	3.8	3.8	3.8	3.3	3.4	0	0.1	0	0	1.3
REC/PLAY	4.9	2.1	4.8	0	3.8	0	3.4	0	3.8	0	3.8	3.3	3.4	0	0.2	0	0.2	1.3
F.F	4.9	2.1	4.9				3.4	1.7	1.9	3.8	3.8	3.3	3.4	0	0.5	0	0	1.3
REF. NO.	QR6006			QR6007			QR6010						QR6012			QR6014		
MODE	E	C	B	E	C	B	1	2	3	4	5		E	C	B	E	C	B
STOP	3.8	3.8	0	0	0	3.7	3.0	0	3.0	0.2	0		0	3.0	0.1	0	0	4.7
REC/PLAY	3.8	0.3	0	0	0	3.8	3.0	0	3.0	0.2	0		0	3.3	0	0	0	4.7
F.F	3.8	3.8	0	0	0	3.8	3.0	0.3	0.3	0.3	0		0	3.3	0	0	0	4.6
REF. NO.	QR6015			QR6016			QR6017			QR6018			QR6019					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	0	6.4	0	0	2.5	0	0	0	2.5	0	1.0	0.1	4.6	3.8	3.7			
REC/PLAY	0.3	0.6	0	0	2.5	0	0	0	2.5	0	0	0	4.6	0	3.7			
F.F	0	5.6	0	0	2.5	0	0	0	2.5	0	1.0	0.1	4.6	3.8	3.7			

SYSTE

REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F
REF. NO.
MODE
STOP
REC/PLAY
F.F

3-25. EVF C.B.A. (VEP28086C)

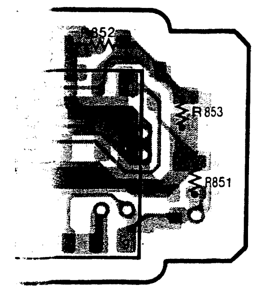

P804
CKD2
CKD1
T801
R816
R817
R810
C807
C817
C811
L802
Q803
Q804
C813
C815
C816
V SIZE
VR801
VR804
BRIGHTNESS
FOCUS
IC801
R841
R842
R853
R851
R856
R850
(COMPONENT SIDE)
(FOIL SIDE)
A
B
1
2
3
4
5
6
7
8

Back Page:
POWER Section

Q6008		
E	C	B
8	0.4	0
8	3.8	0
8	3.8	0

QR6005		
E	C	B
0	0	1.3
0	0.2	1.3
0	0	1.3

QR6014		
E	C	B
0	0	4.7
0	0	4.7
0	0	4.6


R852
R853
R851

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.7	0.8	3.8	0.8	0.7	0.7	0.7	3.8	0.7	3.8	0	0.7	0.8	0	0.7	0	0.7	0	0.6	0
REC/PLAY	0	0	3.8	0	0	3.7	3.7	3.8	0	0	0	0	0	0	0	1.9	0	0	0	0
F.F	0	3.7	0.6	0.6	0.6	0.6	3.8	3.8	0.5	0.5	0	0	0.6	0.6	0	1.9	0.6	0.6	0.6	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.9	0.7	3.8	0	0.7	0	2.7	0	3.8	0.7	3.6	1.7	2.9	0.9	2.3	0.9	0.9	1.8
REC/PLAY	0	0	0	0	3.8	0	0	0	2.7	0	3.8	0	3.5	1.9	2.9	0	2.3	0	0	0
F.F	0	0	1.9	0.6	3.8	0	0	0.6	2.7	0	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	1.8	0.6

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0	0.2	0.2	3.0	0.2	3.0	0	2.4	0	0	0	0
REC/PLAY	1.8	0	0	0	1.9	0	0	0	0.2	0.1	0	0.6	0.5	0.6	0.6	0	0	0	0	1.1
F.F	0.6	0.4	0	0.5	0.5	1.0	3.8	0.4	0.4	0	6.1	3.0	0.1	0.1	0.1	0.1	3.4	0	0.1	0

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	3.8	0	3.8	0	0.1	3.3	3.3	3.8	0.9	3.3	0	0.3	0	1.3	0.5	3.4	0	0	1.9	1.9
REC/PLAY	0	0	1.9	0	0.1	3.3	3.3	3.8	1.3	0	0	4.4	0	0	0	0	0	0	0	0
F.F	0	0	0.1	0.4	0.8	3.3	3.3	3.8	1.0	1.0	0	0.1	0	1.3	1.4	1.2	0.8	1.0	1.9	1.9

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.7	0.6	3.8	0	0.6	0	0.6	1.9	0	0.6	1.9	3.8	0.1	3.6	3.8	0.8	0	0.6	0.8	1.8
REC/PLAY	0	0	0	0	0	0	1.9	1.9	0	0	1.9	3.8	0	0	3.8	0	3.0	3.2	2.4	1.4
F.F	1.7	1.1	1.0	0	0	1.0	0.8	1.9	0.9	0.7	0.9	0.7	0.9	0.9	0.8	1.3	3.0	3.2	0.9	1.0

REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0.9	0.9	0.5	0.9	0.9	3.4	3.6	3.3	1.0	1.0	3.8	1.0	1.0	0.9	1.0	1.3	3.8	1.3	1.4	1.4
REC/PLAY	0	0	0	0	0	0	0	0	3.3	3.8	0	0	0.5	0.7	0.7	0.8	3.8	3.8	0	0
F.F	0	0.8	0.8	0.8	1.7	0.5	0.6	0.6	0.5	3.8	1.0	0.1	0.1	0.1	0.1	0.1	3.8	3.8	0.1	0.1

REF. NO.	IC6001							
MODE	121	122	123	124	125	126	127	128
STOP	3.3	0	1.4	1.4	1.4	1.3	1.4	1.3
REC/PLAY	3.3	0	0	0	0	0	0	0.6
F.F	3.3	0.1	0.1	0.1	0.1	0	0.1	0.4

REF. NO.	IC6002							
MODE	1	2	3	4	5	6	7	8
STOP	0.1	0.9	0	0	2.6	3.6	2.1	3.6
REC/PLAY	0.1	0.8	0.6	0	2.7	3.6	2.1	3.6
F.F	0.2	0	0.7	0	2.7	3.6	2.1	3.6

REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.4	3.5	2.1	0.7	3.4	0.8	1.2	1.3	0.8	0	0	0	0	0	0	0	0	0	3.1	2.5
REC/PLAY	0	3.5	2.1	3.7	3.4	0.1	1.2	1.3	0.1	0	0	0	0	0	0	0	0	0	3.1	2.5
F.F	3.4	3.5	2.1	3.7	3.4	0.1	0.1	1.3	0.1	0.1	0	0	0.1	0	0.1	0	0	0	3.0	0.8

REF. NO.	IC6004													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	3.0	3.4	0	3.0	1.0	0	0	3.3	0	3.1	3.0	2.3	0	0
REC/PLAY	3.0	0	0	0	0	0	0	3.3	2.1	3.2	3.0	2.3	0	3.4
F.F	3.0	3.3	3.3	3.0	1.0	0	0	0.1	0.1	3.1	3.0	0.1	0.2	3.4

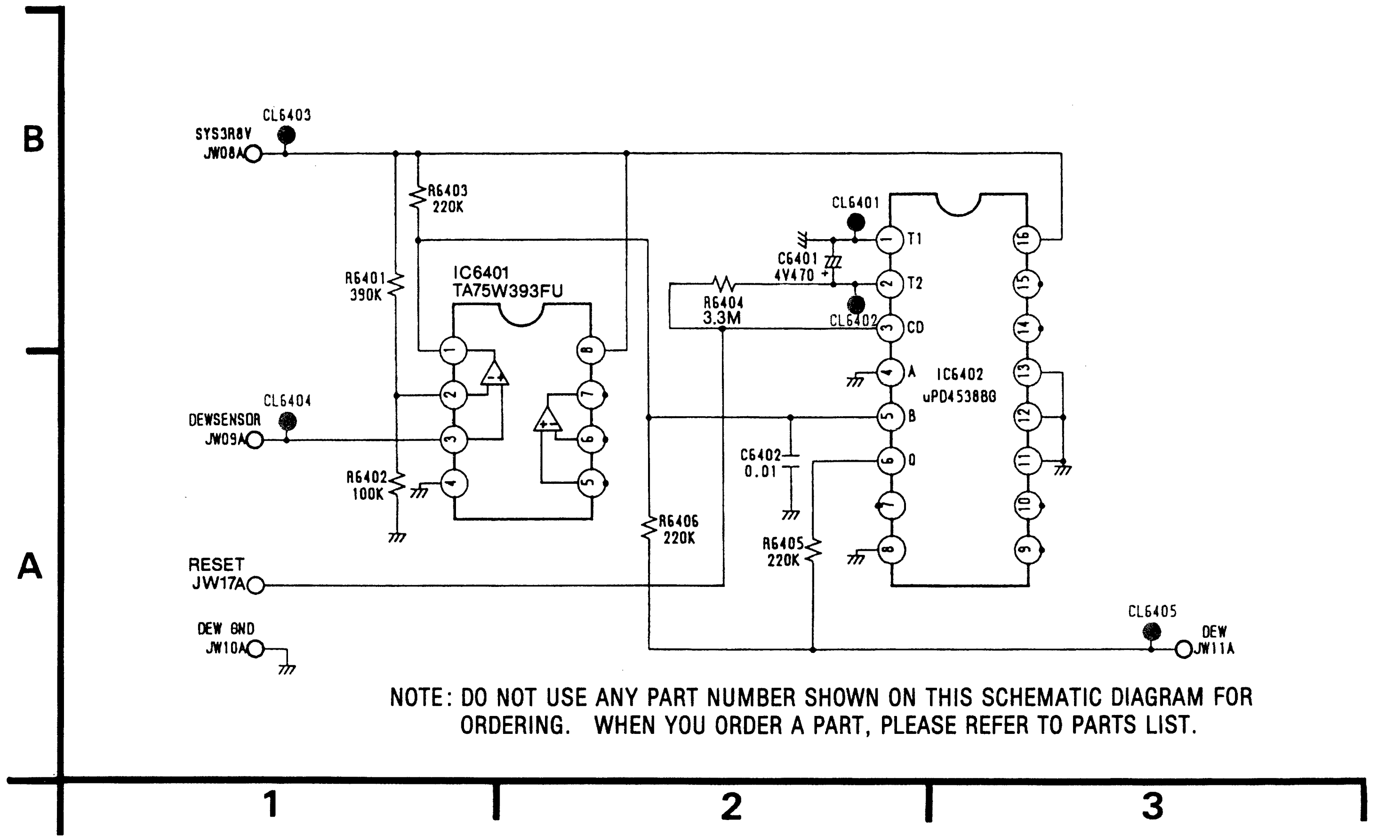
REF. NO.	IC6005										IC6006									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
STOP	0	0	0	0	0	3.0	1.0	0			0	0.8	0.7	0	1.7	2.5	0	3.4		
REC/PLAY	0	0	0	0	0	3.0	0	0			1.7	0.7	0.7	0	1.7	0.4	3.4	3.4		
F.F	0.1	6.4	0.3	0	0	3.0	0.1	0			1.7	0.7	0.7	0	1.7	1.3	1.7	3.4		

REF. NO.	IC6007										IC6008									
MODE	1	2	3								1	2	3	4	5					
STOP	0	6.6	3.8								0.1	0.1	0	3.8	3.8					
REC/PLAY	0	6.6	3.8								0.1	0	0.3	3.8	3.8					
F.F	0	6.6	3.8								0.1	0	0	3.8	3.8					

REF. NO.	IC6009															
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP	0	0	3.4	3.0	3.3	3.3	0	0	0.3	0	0	0.1	3.4	3.4	3.3	0.2
REC/PLAY	0.1	0.1	3.4	0	0.2	0	3.2	0	3.0	0	3.1	0	3.4	3.4	3.3	3.4
F.F	0	2.0	0.2	3.0	1.0	3.3	3.2	0	0.4	0.6	0	0	3.4	3.4	3.3	3.4

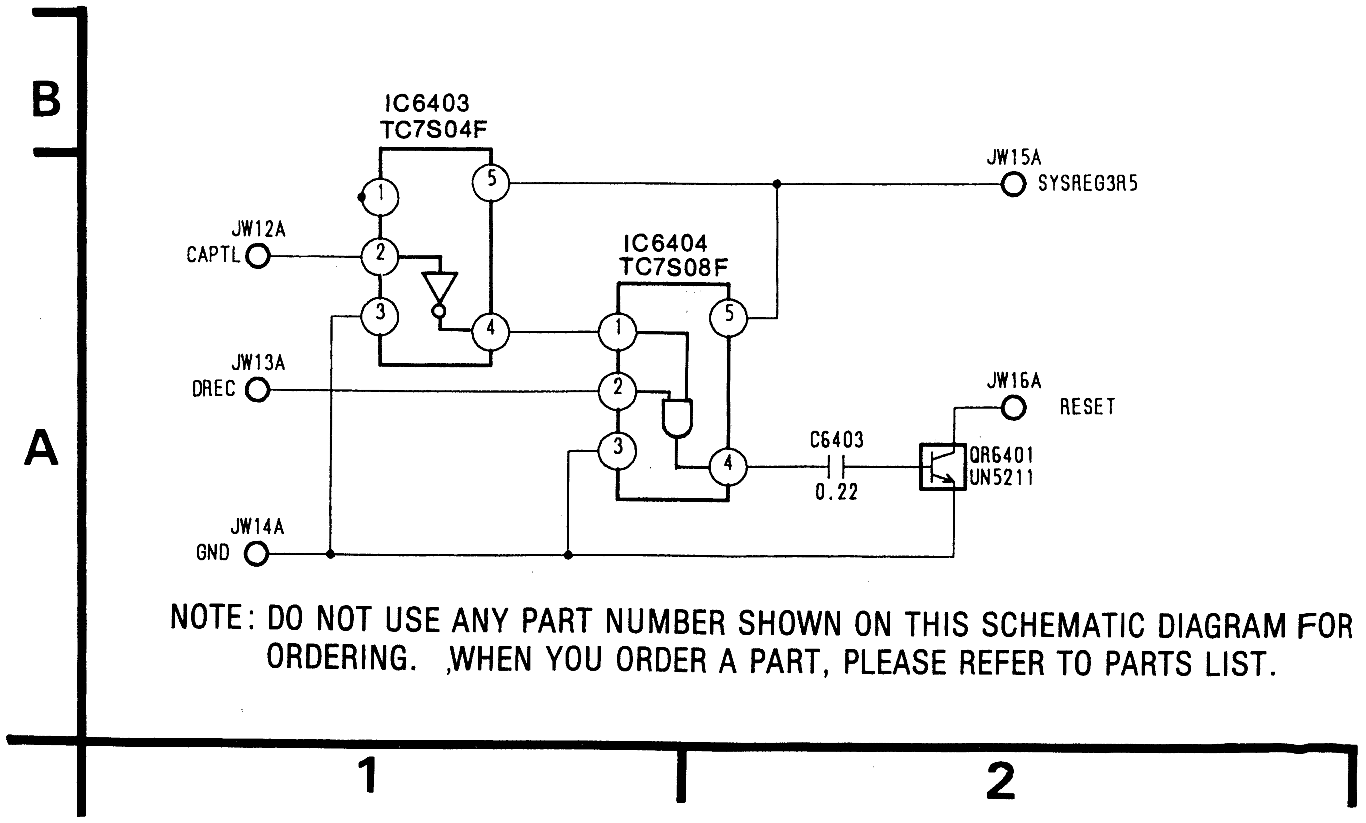
REF. NO.	IC6010															IC6011				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14		1	2	3	4	5
STOP	0.1	3.6	3.4	0.2	0.2	0.2	0.2	0	0	3.8	0.2	0.1	0	3.4		6.5	3.2	4.2	1.1	0
REC/PLAY	3.4	3.6	3.4	3.4	0	0	0	0	0	3.8	0	0	0	3.4		0.4	3.2	4.2	1.1	0
F.F	0.2	3.6	3.4	0.2	0.4	0	0	0	0	0.1	3.9	3.4	0.1	3.4		0	3.2	4.2	1.1	0

DEW TIMER SCHEMATIC DIAGRAM


B
A
1
2
3
CL6403
SYS3R8V
JW08A
R6403
220K
R6401
390K
IC6401
TA75W393FU
CL6404
DEWSENSOR
JW09A
R6402
100K
RESET
JW17A
DEW GND
JW10A
R6406
220K
R6404
3.3M
CL6401
C6401
4V470
CL6402
C6402
0.01
R6405
220K
IC6402
uPD4538BG
T1
T2
CD
A
B
Q
CL6405
DEW
JW11A

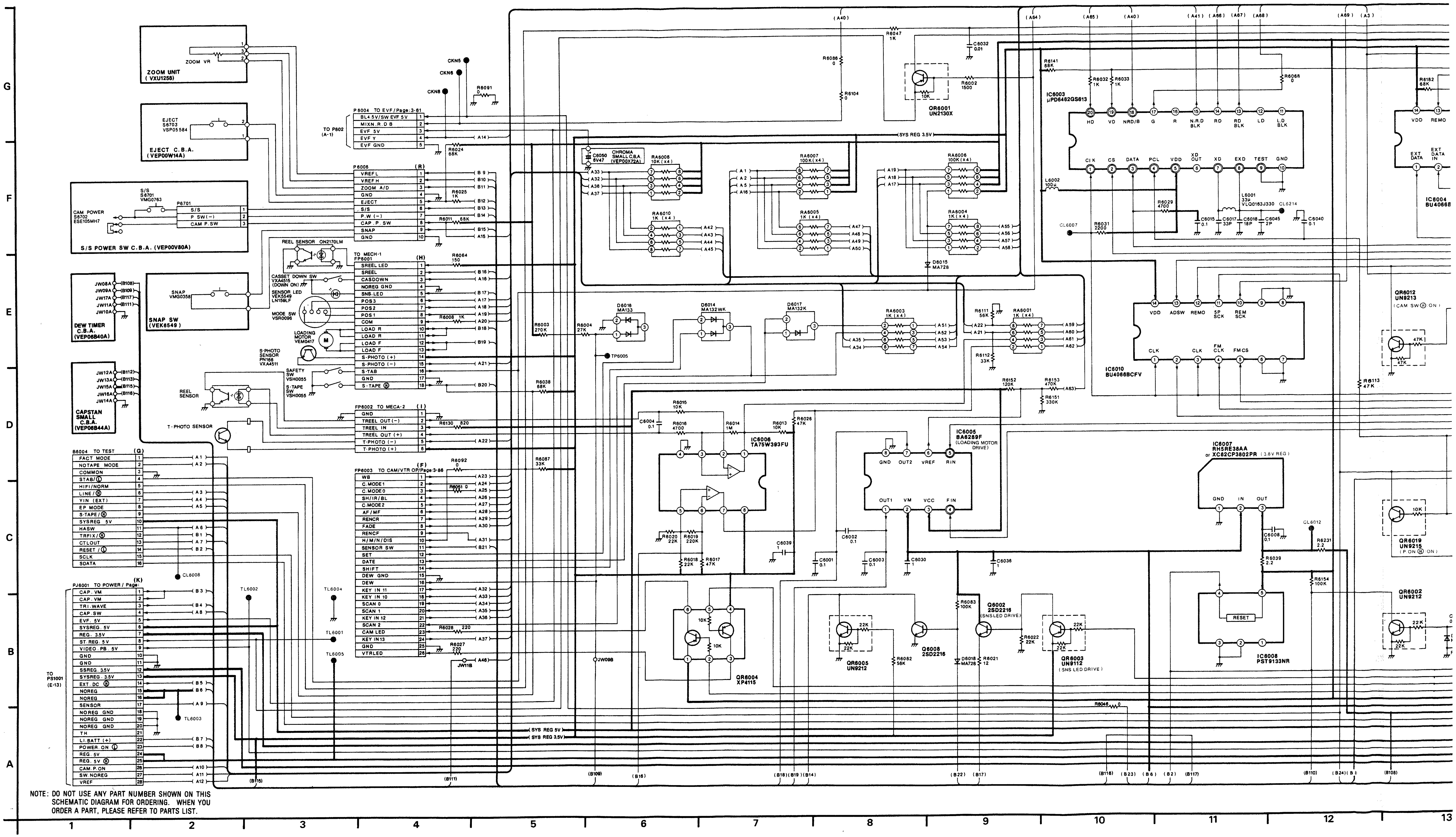
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

CAPSTAN SMALL SCHEMATIC DIAGRAM


B
A
1
2
IC6403
TC7S04F
JW12A
CAPTL
JW13A
DREC
JW14A
GND
IC6404
TC7S08F
JW15A
SYSREG3R5
JW16A
RESET
C6403
0.22
QR6401
UN5211

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. ,WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-26. SYSTEM CONTROL & SERVO HEAD AMP SCHEMATIC DIAGRAM


ZOOM UNIT (VXU1258)
ZOOM VR
EJECT S6703 VSP05584
EJECT C.B.A. (VEP00W14A)
S/S S6701 VMG0763
CAM POWER S6702 ESE105MH7
P6701
S/S POWER SW C.B.A. (VEP00V80A)
DEW TIMER C.B.A. (VEP06840A)
SNAP SW (VEK6549)
CAPSTAN SMALL C.B.A. (VEP06844A)
REEL SENSOR
T-PHOTO SENSOR
CKN5
CKN6
CKN8
P6004 TO EVF/Page:3-61
TO P602 (A-1)
P6005
REEL SENSOR ON2170LM
TO MECH-1 FP6001
CASSET DOWN SW VXA4515 (DOWN ON)
SENSOR LED VEK5549 LN156LF
MODE SW VSR0096
LOADING MOTOR VEM0417
S-PHOTO SENSOR PN166 VXA4511
SAFETY SW VSH0055
S-TAPE SW VSH0055
FP6002 TO MECA-2
B6004 TO TEST
FP6003 TO CAM/VTR OP/Page:3-66
PJ6001 TO POWER / Page:
TO PS1001 (E-13)
TL6001
TL6002
TL6003
TL6004
TL6005
CL6008
JW11B
JW09B
C6050 SV47
CHROMA SMALL C.B.A. (VEP00X72A)
RA6006 10K (x4)
RA6007 100K (x4)
RA6008 100K (x4)
RA6010 1K (x4)
RA6005 1K (x4)
RA6004 1K (x4)
RA6003 1K (x4)
RA6001 1K (x4)
D6018 MA133
D6014 MA132WK
D6017 MA132K
D6015 MA728
D6016 MA728
TP6005
IC6006 TA75W393FU
IC6005 BA6289F (LOADING MOTOR DRIVE)
QR6004 XP4115
QR6005 UN9212
Q6008 2SD2216
Q6002 2SD2216 (SNS LED DRIVE)
QR6003 UN9112 (SNS LED DRIVE)
QR6001 UN2130X
IC6003 µPD6462GS813
IC6010 BU4066BCFV
IC6007 RH5RE38AA or XC62CP3802PR (3.8V REG)
IC6008 PST9133NR
IC6004 BU4066B
QR6012 UN9213 (CAM SW Ⓝ ON)
QR6019 UN9215 (P.ON Ⓝ ON)
QR6002 UN9212
SYS REG 3.5V
SYS REG 5V
CL6007
CL6012
CL6214
L6001 33µ VLQ0163J330
L6002 100µ
G
F
E
D
C
B
A
1
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3
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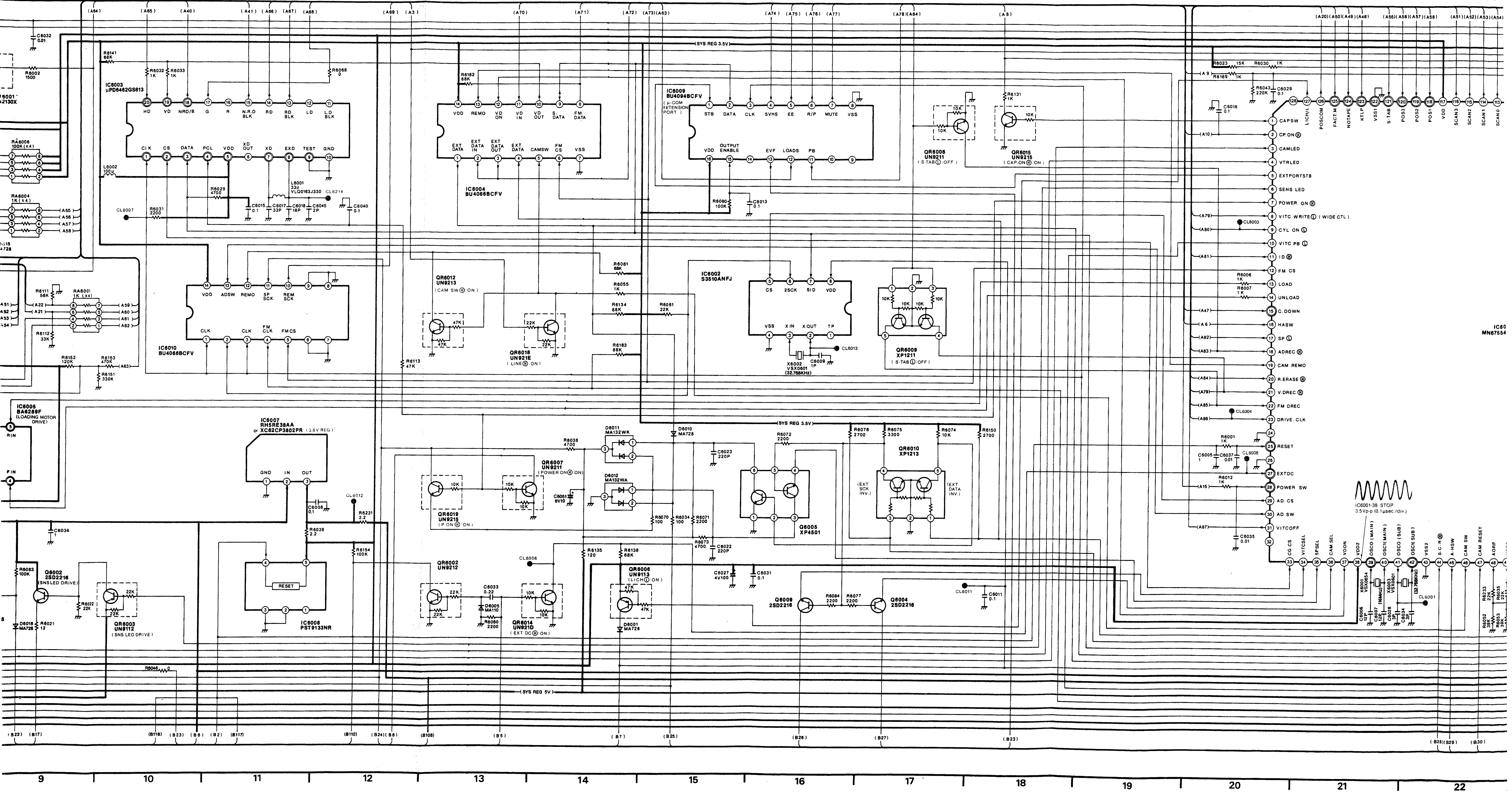
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

CAPSTAN SERVO SPEED LOOP — CAPSTAN SERV



IC6003 µPD6462GS613
HD
VD
NRD/B
G
R
N.R.D BLK
RD
RD BLK
LD
LD BLK
CLK
CS
DATA
PCL
VDD
XD OUT
XD
EXD
TEST
GND
R6032 1K
R6033 1K
R6141 68K
R6068 0
R6002 1500
C6032 0.01
RA6005 100K (x4)
RA6004 1K (x4)
L6002 100µ
CL6007
R6031 2200
R6029 4700
L6001 33µ VLQ0163J330
C6015 0.1
C6017 33P
C6018 18P
C6045 2P
C6040 0.1
CL6214
IC6004 BU4066BCFV
VDD
REMO
VD ON
VD IN
VD OUT
S. DATA
FM DATA
EXT DATA
EXT DATA IN
EXT DATA OUT
EXT DATA
CAMSW
FM CS
VSS
R6182 68K
IC6009 BU4094BCFV
(µ-COM EXTENSION PORT)
STB
DATA
CLK
SVHS
EE
R/P
MUTE
VSS
VDD
OUTPUT ENABLE
EVF
LOADS
PB
R6080 100K
C6013 0.1
QR6008 UN9211 (S-TAB Ⓛ: OFF)
QR6015 UN9215 (CAP.ON Ⓗ: ON)
R6131 1K
10K
(SYS REG 3.5V)
IC6010 BU4066BCFV
VDD
ADSW
REMO
SP SCK
REM SCK
CLK
FM CLK
FMCS
R6111 56K
RA6001 1K (x4)
R6112 33K
R6152 120K
R6153 470K
R6151 330K
QR6012 UN9213 (CAM SW Ⓗ: ON)
QR6018 UN921E (LINE Ⓗ: ON)
R6113 47K
R6081 68K
R6055 1K
R6134 68K
R6051 22K
R6183 68K
IC6002 S3510ANFJ
CS
2SCK
SID
VDD
VSS
XIN
XOUT
TP
X6002 VSX0601 (32.768KHz)
C6009 1P
CL6013
QR6009 XP1211 (S-TAB Ⓛ: OFF)
IC6005 BA6289F (LOADING MOTOR DRIVE)
RIN
FIN
IC6007 RH5RE38AA or XC62CP3802PR (3.8V REG)
GND
IN
OUT
C6008 0.1
CL6012
R6231 2.2
R6039 2.2
R6154 100K
RESET
IC6008 PST9133NR
C6036 1
R6083 100K
Q6002 2SD2216 (SNSLED DRIVE)
R6022 22K
QR6003 UN9112 (SNS LED DRIVE)
D6018 MA728
R6021 12
QR6019 UN9215 (P.ON Ⓗ: ON)
QR6007 UN9211 (POWER ON Ⓗ: ON)
C6051 6V10
R6036 4700
D6011 MA132WK
D6012 MA132WA
D6010 MA728
C6023 220P
R6072 2200
R6076 2700
R6075 3300
R6074 10K
R6150 2700
QR6010 XP1213
(EXT SCK INV.)
(EXT DATA INV.)
Q6005 XP4501
R6070 100
R6034 100
R6071 2200
R6073 4700
C6022 220P
CL6006
QR6002 UN9212
C6033 0.22
D6005 MA110
R6060 2200
QR6014 UN921D (EXT DC Ⓗ: ON)
R6135 120
R6138 68K
QR6006 UN9113 (LICH Ⓛ: ON)
D6001 MA728
C6027 4V100
C6031 0.1
Q6009 2SD2216
R6084 2200
R6077 2200
Q6004 2SD2216
CL6011
C6011 0.1
R6046 0
(SYS REG 5V)
R6023 15K
R6030 1K
R6169 1K
R6043 220K
C6029 0.1
C6016 0.1
CAPSW
CP.ON Ⓗ
CAMLED
VTRLED
EXTPORTSTB
SENS LED
POWER ON Ⓗ
VITC WRITE Ⓛ (WIDE CTL)
CL6003
CYL ON Ⓛ
VITC PB Ⓛ
ID Ⓗ
FM CS
R6006 1K
LOAD
R6007 1K
UNLOAD
C.DOWN
HASW
SP Ⓛ
ADREC Ⓗ
CAM REMO
R.ERASE Ⓗ
V.DREC Ⓗ
FM DREC
CL6004
DRIVE.CLK
R6001 1K
RESET
C6005 1
C6037 0.01
CL6005
EXTDC
R6012 1K
POWER SW
AD.CS
AD.SW
VITCOFF
C6035 0.01
IC6001-35 STOP 3.5Vp-p (0.1µsec./div.)
LICH/L
POSCOM
FACT.M
NOTAPE
KTLP
VSS1
S-TAB
POS3
POS2
POS1
VDD
SCAN3
SCAN2
SCAN1
SCAN0
CG CS
VITCSEL
SPSEL
CAM SEL
VDON
VDD2
OSCI (MAIN)
OSCO (MAIN)
OSCI (SUB)
OSCO (SUB)
VSS2
S.C.R Ⓗ
A-HSW
CAM SW
CAM RESET
AORP
X6001 VSS2654 (16MHz)
X6003 VSX0601 (32.768KHz)
C6006 12P
C6007 12P
C6028 3P
C6034 3P
CL6001
R6233 22K
R6035 22K
R6052 39K
R6053 39K
IC60 MN67554
(A64) (A65) (A40) (A41) (A66) (A67) (A68) (A69) (A3) (A70) (A71) (A72) (A73) (A63) (A74) (A75) (A76) (A77) (A78) (A64) (A8)
(A20) (A50) (A49) (A48) (A56) (A58) (A57) (A58) (A51) (A52) (A53) (A54)
(A9) (A10) (A79) (A80) (A81) (A47) (A6) (A82) (A83) (A84) (A79) (A85) (A86) (A15) (A87)
(A22) (A21) (A55) (A56) (A57) (A58) (A59) (A60) (A61) (A62) (A51) (A52) (A53) (A54) (A63)
(B22) (B17) (B116) (B23) (B6) (B2) (B117) (B110) (B24) (B8) (B108) (B5) (B7) (B25) (B26) (B27) (B23) (B28) (B29) (B30)
9
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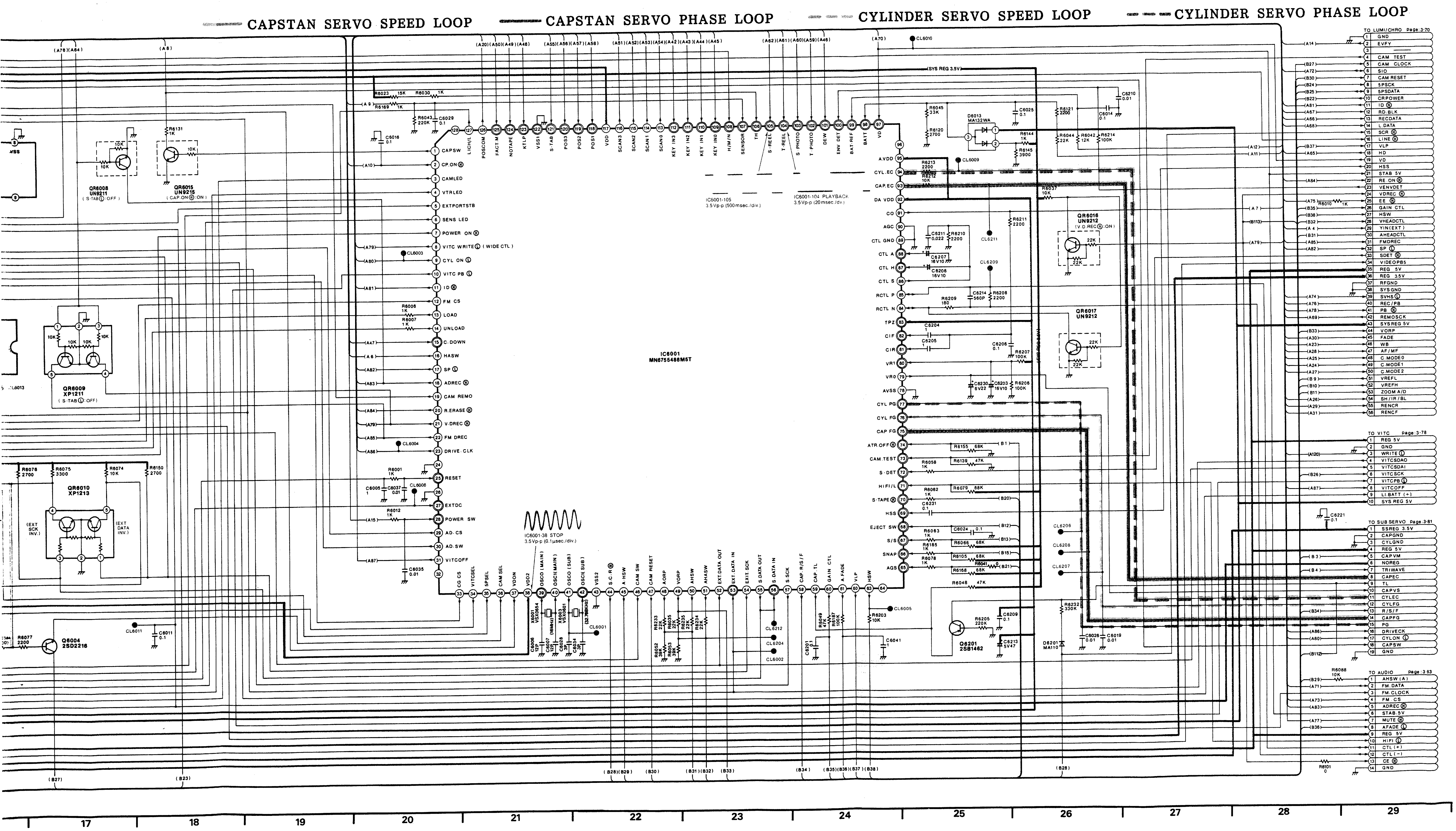
18
19
20
21
22


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
IC6001
MN6755486M5T
IC6001-105
3.5Vp-p (500msec./div.)
IC6001-104 PLAYBACK
3.5Vp-p (20msec./div.)
IC6001-38 STOP
3.5Vp-p (0.1μsec./div.)
QR6008
UN9211
(S-TAB Ⓛ: OFF)
QR6015
UN9215
(CAP.ON Ⓗ: ON)
QR6009
XP1211
(S-TAB Ⓛ: OFF)
QR6010
XP1213
(EXT SCK INV.)
(EXT DATA INV.)
Q6004
2SD2216
QR6016
UN9212
(V.D.REC Ⓗ: ON)
QR6017
UN9212
Q6201
2SB1462
D6013
MA132WA
D6201
MA110
SYS REG 3.5V
TO LUMI/CHRO Page:3-70
TO VITC Page:3-78
TO SUB SERVO Page:3-81
TO AUDIO Page:3-83
17
18
19
20
21
22
23
24
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26
27
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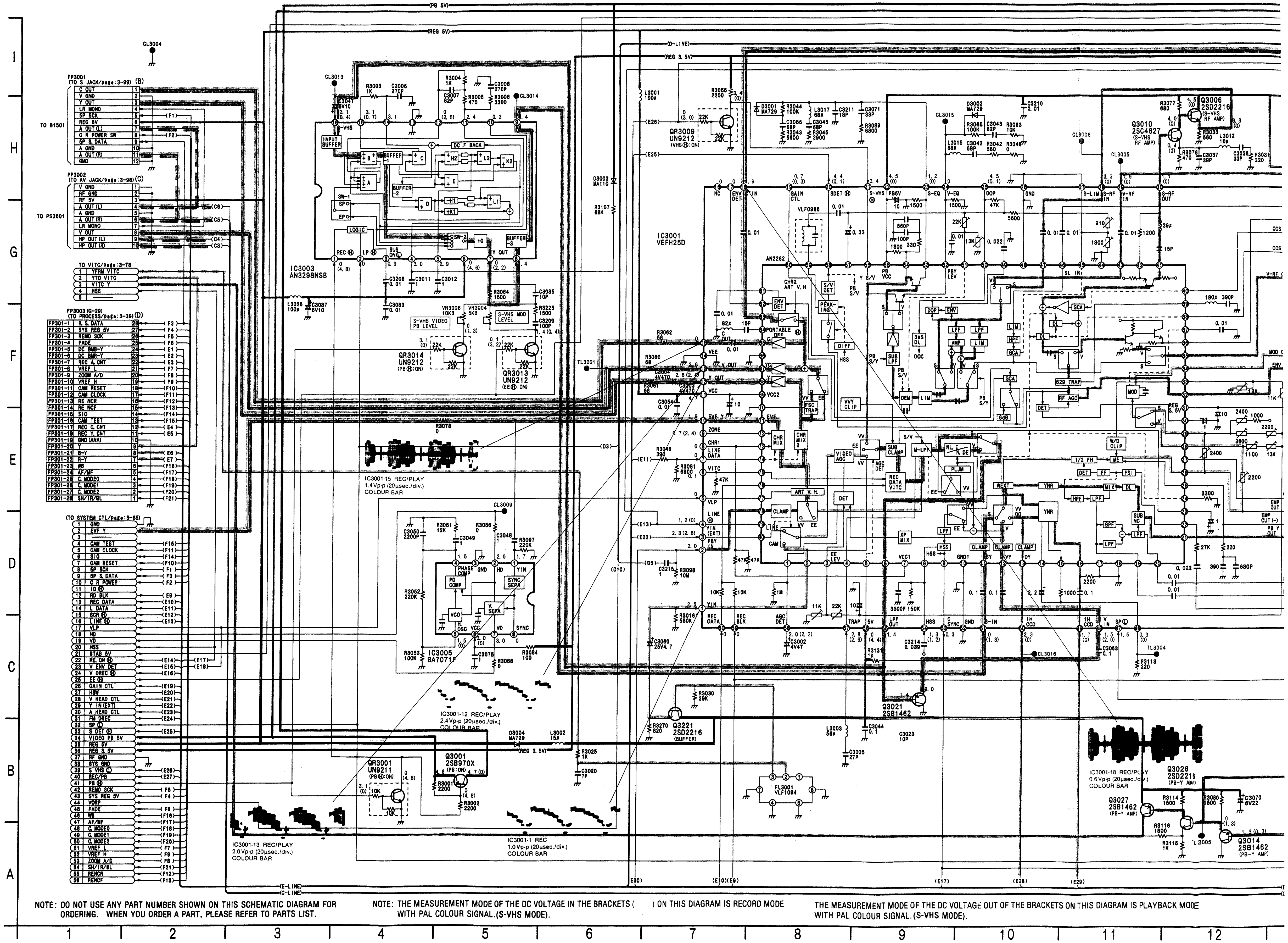
29

3-27. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM


FP3001 (TO S JACK/Page:3-99) (B)
TO B1501
FP3002 (TO AV JACK/Page:3-98) (C)
TO PS3601
TO VITC/Page:3-78
FP3003 (G-29) (TO PROCESS/Page:3-39) (D)
(TO SYSTEM CTL/Page:3-65)
IC3003 AN3298NSB
IC3001 VEFH25D
IC3005 BA7071F
QR3014 UN9212
QR3013 UN9212
QR3009 UN9212
QR3001 UN9211
Q3001 2SB970X
Q3221 2SD2216 (BUFFER)
Q3021 2SB1462
Q3010 2SC4627 (S-VHS RF AMP)
Q3006 2SD2216 (S-VHS RF AMP)
Q3026 2SD2216 (PB-Y AMP)
Q3027 2SB1462 (PB-Y AMP)
Q3014 2SB1462 (PB-Y AMP)
FL3001 VLF1094
IC3001-15 REC/PLAY 1.4Vp-p (20μsec./div.) COLOUR BAR
IC3001-12 REC/PLAY 2.4Vp-p (20μsec./div.) COLOUR BAR
IC3001-13 REC/PLAY 2.6Vp-p (20μsec./div.) COLOUR BAR
IC3001-1 REC 1.0Vp-p (20μsec./div.) COLOUR BAR
IC3001-18 REC/PLAY 0.6Vp-p (20μsec./div.) COLOUR BAR
(PB 5V)
(REG 5V)
(D-LINE)
(REG 3.5V)
(E-LINE)
(C-LINE)
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

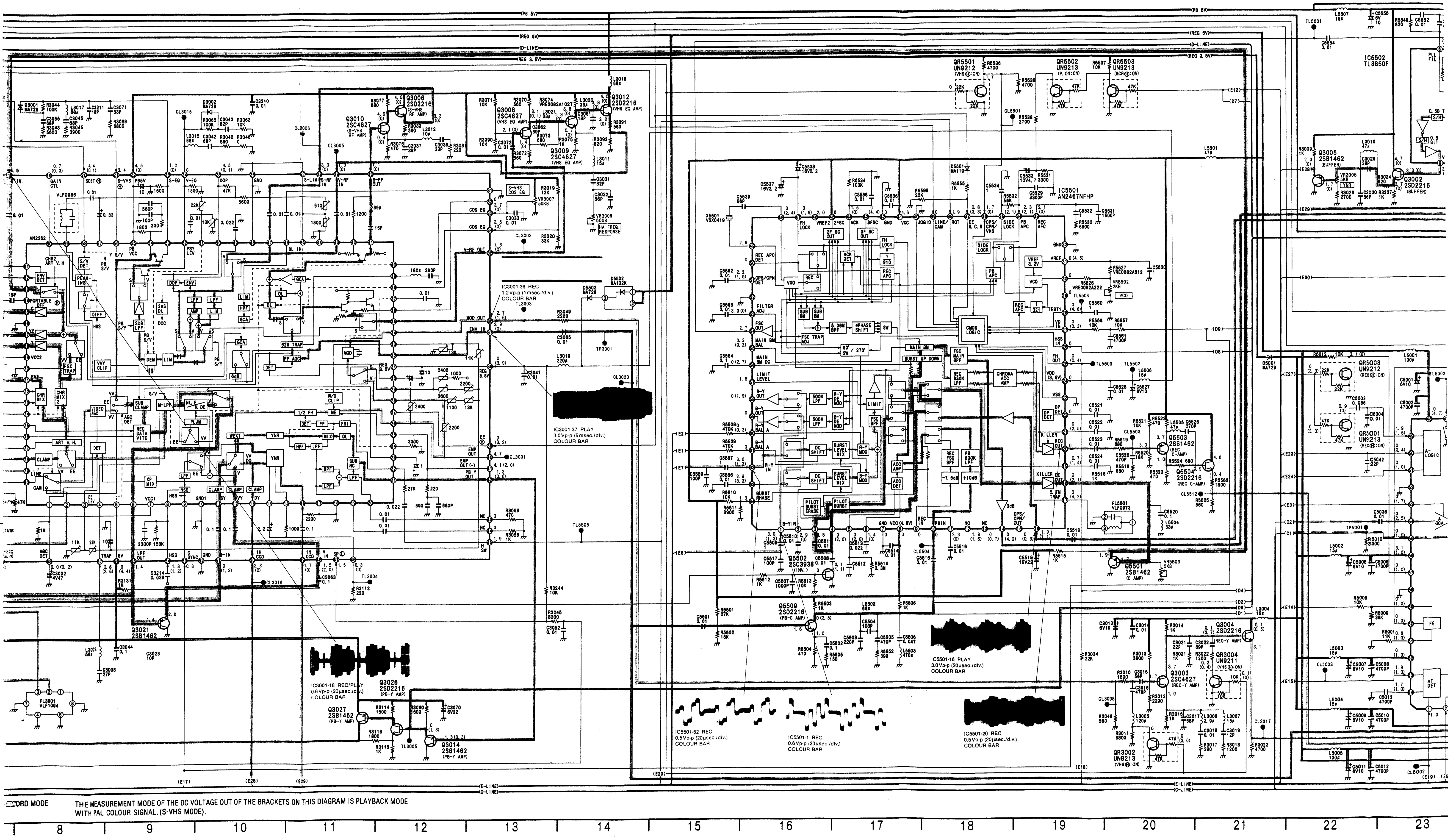
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.(S-VHS MODE).

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.(S-VHS MODE).

Back Page:
SYSTEM CTL & SERVO Section

VIDEO MAIN SIGNAL PATH IN REC MODE — VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE — AUDIO MAIN SIGNAL PATH IN REC MC


(PB 5V)
(REG 5V)
(D-LINE)
(REG 3.5V)
AN2262
IC5501 AN2467NFHP
IC5502 TL8850F
Q3006 2SD2216 (S-VHS RF AMP)
Q3010 2SC4627 (S-VHS RF AMP)
Q3008 2SC4627 (VHS EQ AMP)
Q3009 2SC4627 (VHS EQ AMP)
Q3012 2SD2216 (VHS EQ AMP)
Q3021 2SB1462
Q3026 2SD2216 (PB-Y AMP)
Q3027 2SB1462 (PB-Y AMP)
Q3014 2SB1462 (PB-Y AMP)
QR5501 UN9212 (VHS Ⓢ:ON)
QR5502 UN9213 (P. ON:ON)
QR5503 UN9213 (SCR Ⓢ:ON)
Q5502 2SC3938 (INV.)
Q5509 2SD2216 (PB-C AMP)
Q5501 2SB1462 (C AMP)
Q5503 2SB1462 (REC C-AMP)
Q5504 2SD2216 (REC C-AMP)
Q3005 2SB1462 (BUFFER)
Q3002 2SD2216 (BUFFER)
Q3004 2SD2216 (REC-Y AMP)
Q3003 2SC4627 (REC-Y AMP)
QR3004 UN9211 (VHS Ⓢ:ON)
QR3002 UN9213 (VHS Ⓢ:ON)
QR5003 UN9212 (REC Ⓢ:ON)
QR5001 UN9213 (REC Ⓢ:ON)
D5001 MA729
D5503 MA728
D5502 MA132K
X5501 VSX0419
FL3001 VLF1094
FL5501 VLF0973
VR3007 50KB
VR3008 500B
HA FREQ. RESPONSE
(E-LINE)
(C-LINE)
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

IC3001-36 REC
1.2Vp-p (1msec./div.)
COLOUR BAR

IC3001-37 PLAY
3.0Vp-p (5msec./div.)
COLOUR BAR

IC3001-18 REC/PLAY
0.6Vp-p (20μsec./div.)
COLOUR BAR

IC5501-62 REC
0.5Vp-p (20μsec./div.)
COLOUR BAR

IC5501-1 REC
0.6Vp-p (20μsec./div.)
COLOUR BAR

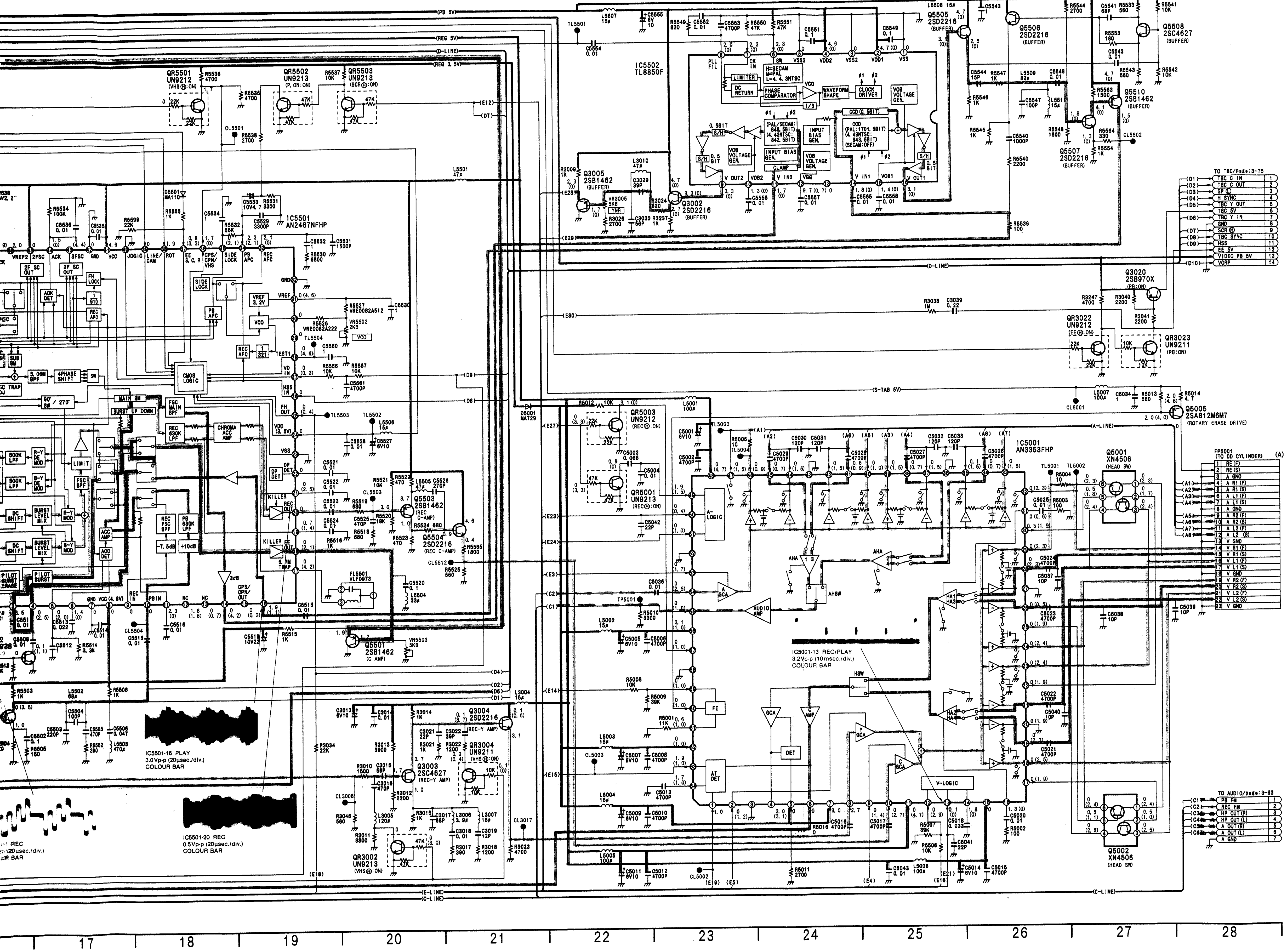
IC5501-16 PLAY
3.0Vp-p (20μsec./div.)
COLOUR BAR

IC5501-20 REC
0.5Vp-p (20μsec./div.)
COLOUR BAR

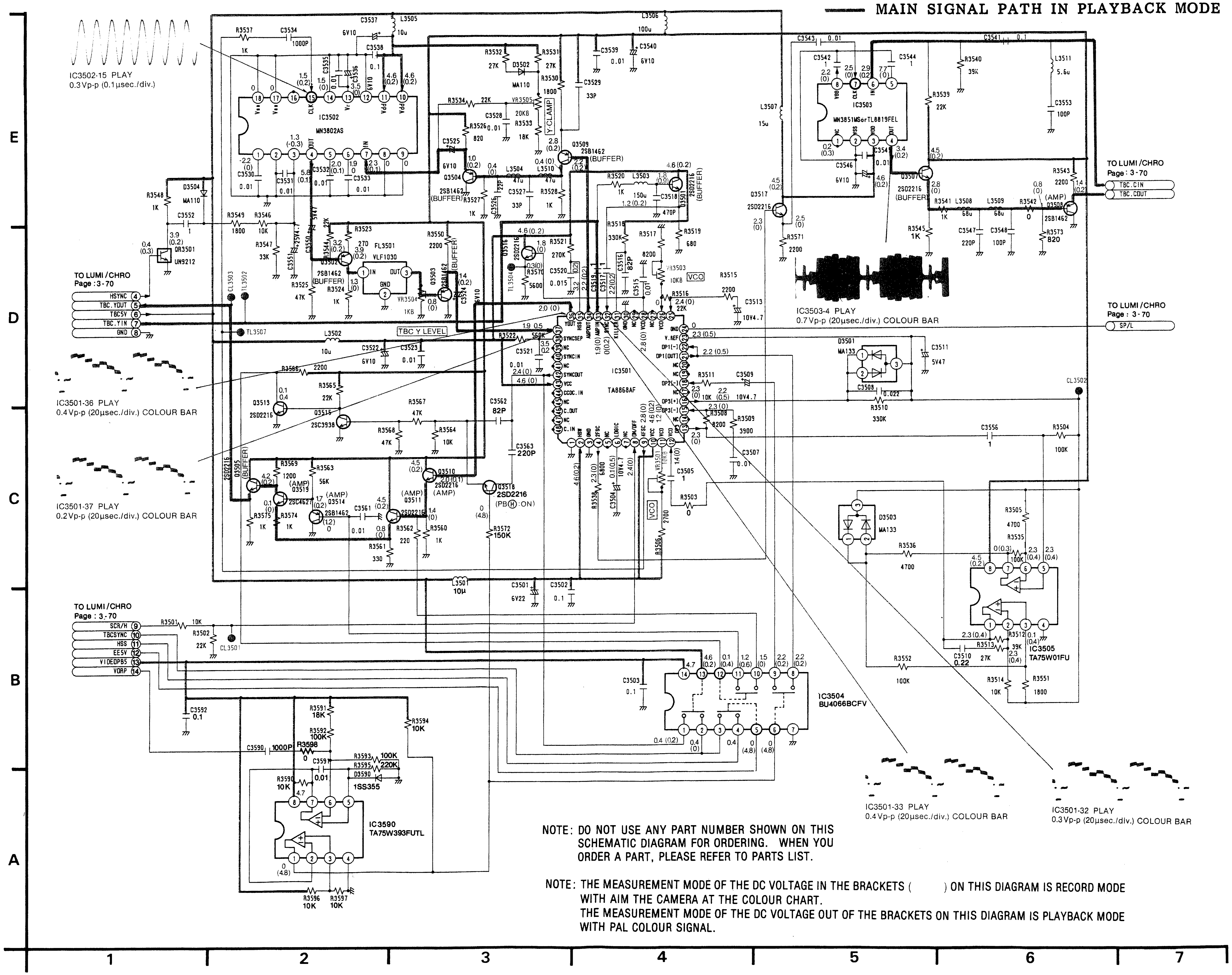
ORD MODE

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (S-VHS MODE).

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE ▬ ▬ ▬ AUDIO MAIN SIGNAL PATH IN REC MODE ▬ ▬ ▬ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

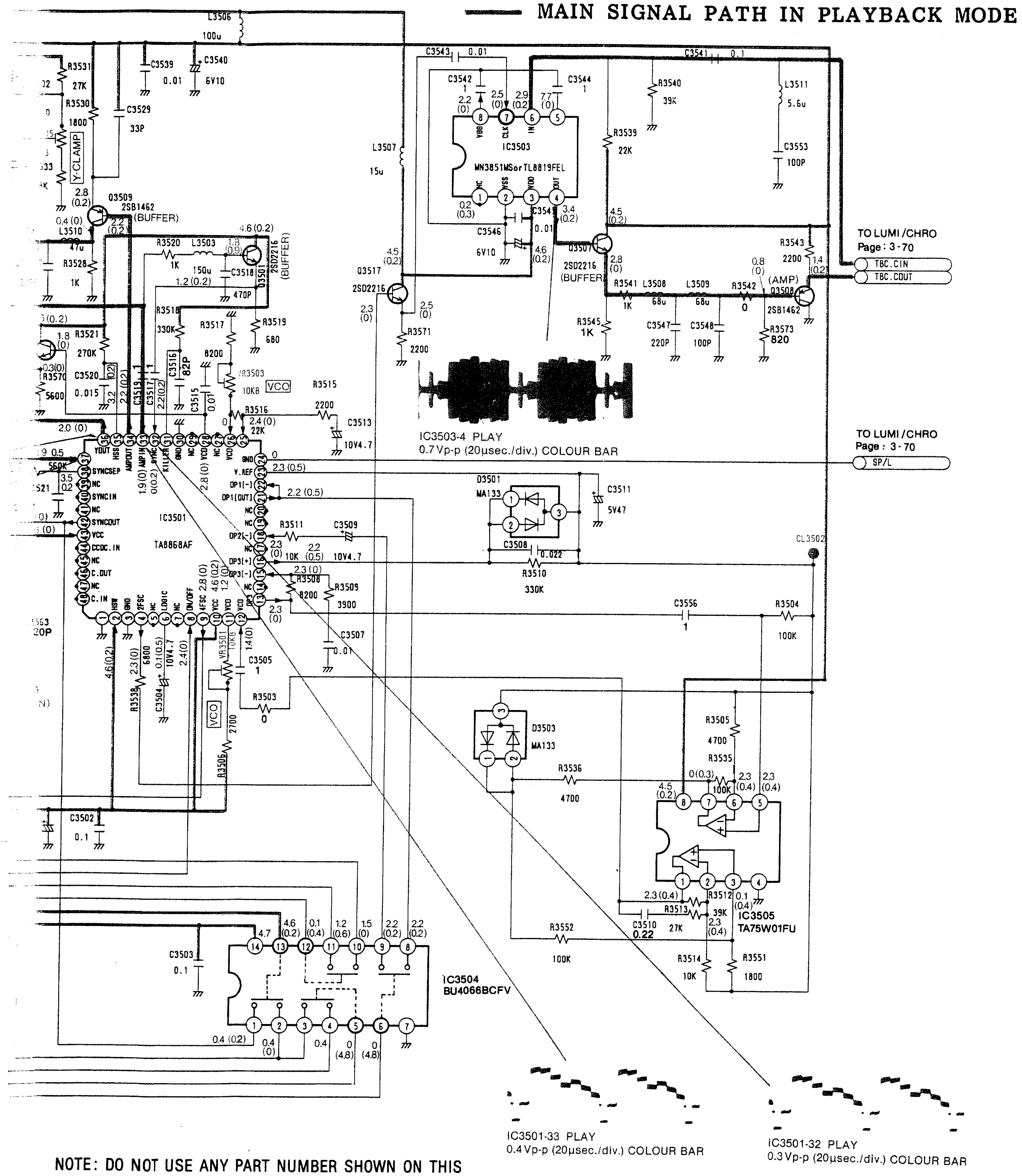

IC5501 AN2467NFHP
IC5502 TL8850F
IC5001 AN3353FHP
Q5505 2SD2216 (BUFFER)
Q5506 2SD2216 (BUFFER)
Q5508 2SC4627 (BUFFER)
Q5510 2SB1462 (BUFFER)
Q5507 2SD2216 (BUFFER)
Q3005 2SB1462 (BUFFER)
Q3002 2SD2216 (BUFFER)
QR5501 UN9212
QR5502 UN9213
QR5503 UN9213
Q5503 2SB1462 (REC C-AMP)
Q5504 2SD2216 (REC C-AMP)
Q5501 2SB1462 (C AMP)
Q3004 2SD2216 (REC-Y AMP)
Q3003 2SC4627 (REC-Y AMP)
QR3004 UN9211
QR3002 UN9213
QR5003 UN9212
QR5001 UN9213
Q3020 2SB970X
QR3022 UN9212
QR3023 UN9211
Q5005 2SA812M6M7 (ROTARY ERASE DRIVE)
Q5001 XN4506 (HEAD SW)
Q5002 XN4506 (HEAD SW)
TO TBC/Page:3-75
TBC C IN
TBC C OUT
SP
H SYNC
TBC Y OUT
TBC 5V
TBC Y IN
GND
SCR
TBC SYNC
HSS
EE 5V
VIDEO PB 5V
VORP
FP5001 (TO DD CYLINDER)
TO AUDIO/Page:3-83
PB FM
REC FM
HP OUT (R)
HP OUT (L)
A OUT (R)
A OUT (L)
A GND
IC5501-16 PLAY 3.0Vp-p (20μsec./div.) COLOUR BAR
IC5501-20 REC 0.5Vp-p (20μsec./div.) COLOUR BAR
IC5001-13 REC/PLAY 3.2Vp-p (10msec./div.) COLOUR BAR
17
18
19
20
21
22
23
24
25
26
27
28

3-28. TBC SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN PLAYBACK MODE
IC3502-15 PLAY
0.3Vp-p (0.1µsec./div.)
IC3502
MN3802AS
IC3503
MN3851MSorTL8819FEL
IC3503-4 PLAY
0.7Vp-p (20µsec./div.) COLOUR BAR
IC3501
TA8868AF
IC3501-36 PLAY
0.4Vp-p (20µsec./div.) COLOUR BAR
IC3501-37 PLAY
0.2Vp-p (20µsec./div.) COLOUR BAR
IC3501-33 PLAY
0.4Vp-p (20µsec./div.) COLOUR BAR
IC3501-32 PLAY
0.3Vp-p (20µsec./div.) COLOUR BAR
IC3504
BU4066BCFV
IC3505
TA75W01FU
IC3590
TA75W393FUTL
TO LUMI/CHRO
Page : 3-70
HSYNC ④
TBC.YOUT ⑤
TBC5V ⑥
TBC.YIN ⑦
GND ⑧
TBC.CIN
TBC.COUT
SP/L
SCR/H ⑨
TBCSYNC ⑩
HSS ⑪
EE5V ⑫
VIDEOPB5 ⑬
VORP ⑭
Q3501 UN9212
Q3502 2SB1462 (BUFFER)
Q3503 2SB1462 (BUFFER)
Q3504 2SB1462 (BUFFER)
Q3505 2SD2216 (BUFFER)
Q3506 2SD2216 (BUFFER)
Q3507 2SD2216 (BUFFER)
Q3508 2SB1462 (AMP)
Q3509 2SB1462 (BUFFER)
Q3510 2SD2216 (AMP)
Q3511 2SD2216 (AMP)
Q3513 2SD2216
Q3514 2SB1462 (AMP)
Q3515 2SC3938
Q3516 2SD2216
Q3517 2SD2216
Q3518 2SD2216 (PB(H):ON)
Q3519 2SC4627 (AMP)
FL3501 VLF1030
D3501 MA133
D3502 MA110
D3503 MA133
D3504 MA110
D3590 1SS355
TBC Y LEVEL
Y-CLAMP
VCO
E
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.


MAIN SIGNAL PATH IN PLAYBACK MODE
IC3501
TA8868AF
IC3503
MN3851MS or TL8819FEL
IC3504
BU4066BCFV
IC3505
TA75W01FU
Q3509
2SB1462
(BUFFER)
Q3510
2SD2216
(BUFFER)
Q3517
2SD2216
Q3507
2SD2216
(BUFFER)
Q3508
2SB1462
(AMP)
D3501
MA133
D3503
MA133
Y-CLAMP
VCO
TO LUMI/CHRO
Page: 3-70
TBC.CIN
TBC.COUT
TO LUMI/CHRO
Page: 3-70
SP/L
IC3503-4 PLAY
0.7Vp-p (20μsec./div.) COLOUR BAR
IC3501-33 PLAY
0.4Vp-p (20μsec./div.) COLOUR BAR
IC3501-32 PLAY
0.3Vp-p (20μsec./div.) COLOUR BAR

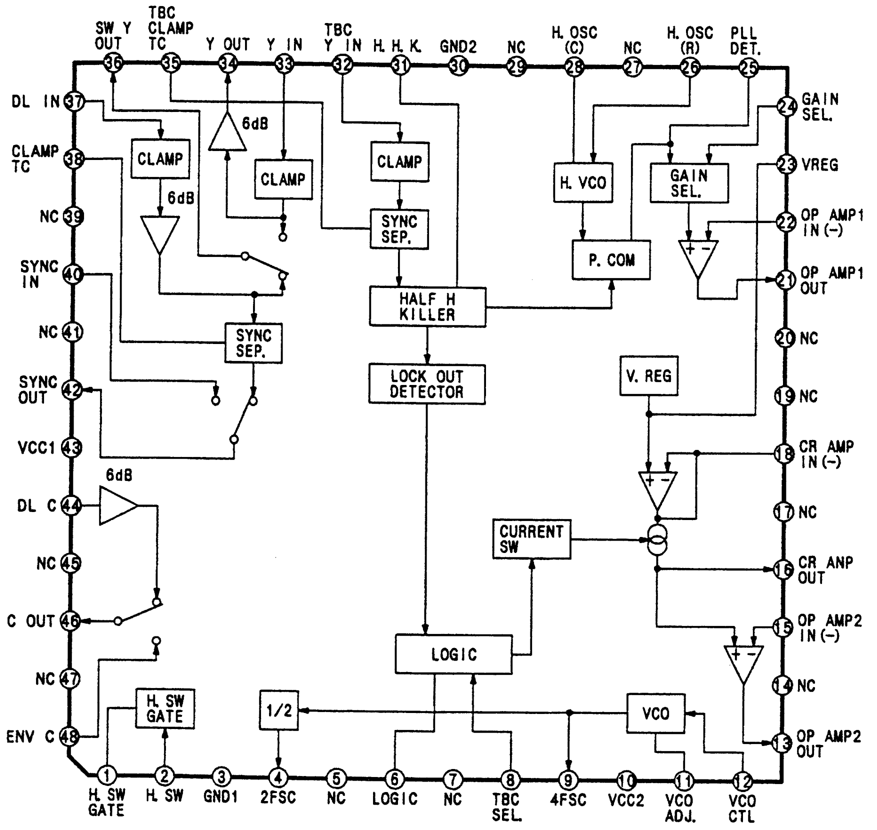
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

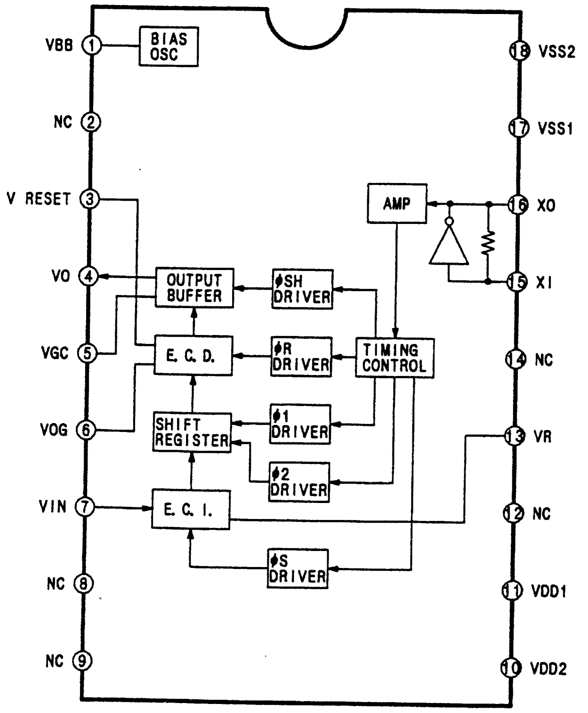
4 5 6 7

IC BLOCK

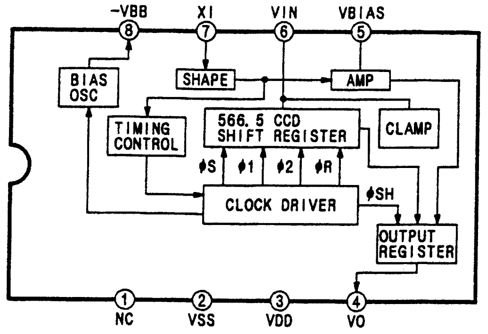
IC3501 (TA8868AF)
(LOCATION: D-4)


SW Y OUT 36
TBC CLAMP TC 35
Y OUT 34
Y IN 33
TBC Y IN 32
H. H. K. 31
GND2 30
NC 29
H. OSC (C) 28
NC 27
H. OSC (R) 26
PLL DET. 25
DL IN 37
CLAMP TC 38
NC 39
SYNC IN 40
NC 41
SYNC OUT 42
VCC1 43
DL C 44
NC 45
C OUT 46
NC 47
ENV C 48
24 GAIN SEL.
23 VREG
22 OP AMP1 IN(-)
21 OP AMP1 OUT
20 NC
19 NC
18 CR AMP IN(-)
17 NC
16 CR ANP OUT
15 OP AMP2 IN(-)
14 NC
13 OP AMP2 OUT
1 H. SW GATE
2 H. SW
3 GND1
4 2FSC
5 NC
6 LOGIC
7 NC
8 TBC SEL.
9 4FSC
10 VCC2
11 VCO ADJ.
12 VCO CTL
CLAMP
6dB
CLAMP
CLAMP
SYNC SEP.
SYNC SEP.
HALF H KILLER
LOCK OUT DETECTOR
H. VCO
GAIN SEL.
P. COM
V. REG
CURRENT SW
LOGIC
H. SW GATE
1/2
VCO
6dB
6dB

IC3502 (MN3802AS)
(LOCATION: E-7)

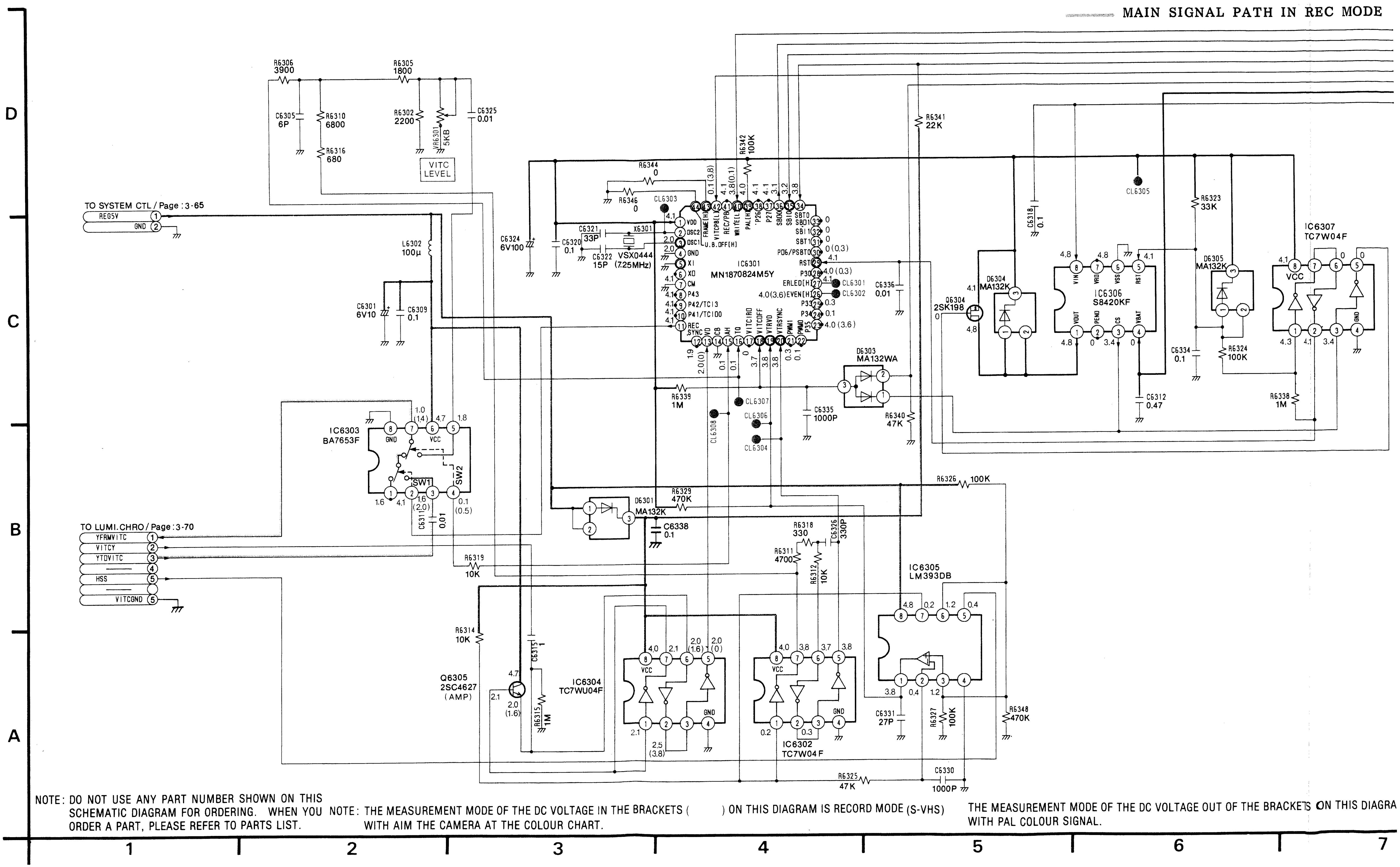

VBB 1
NC 2
V RESET 3
VO 4
VGC 5
VOG 6
VIN 7
NC 8
NC 9
18 VSS2
17 VSS1
16 XO
15 XI
14 NC
13 VR
12 NC
11 VDD1
10 VDD2
BIAS OSC
AMP
OUTPUT BUFFER
φSH DRIVER
E. C. D.
φR DRIVER
TIMING CONTROL
SHIFT REGISTER
φ1 DRIVER
φ2 DRIVER
E. C. I.
φS DRIVER

IC3503 (MN3851MS)
(LOCATION: E-5)


-VBB 8
XI 7
VIN 6
VBIAS 5
BIAS OSC
SHAPE
AMP
TIMING CONTROL
566.5 CCD SHIFT REGISTER
φS φ1 φ2 φR
CLAMP
CLOCK DRIVER
φSH
OUTPUT REGISTER
1 NC
2 VSS
3 VDD
4 VO

Next Page:
VITC Section

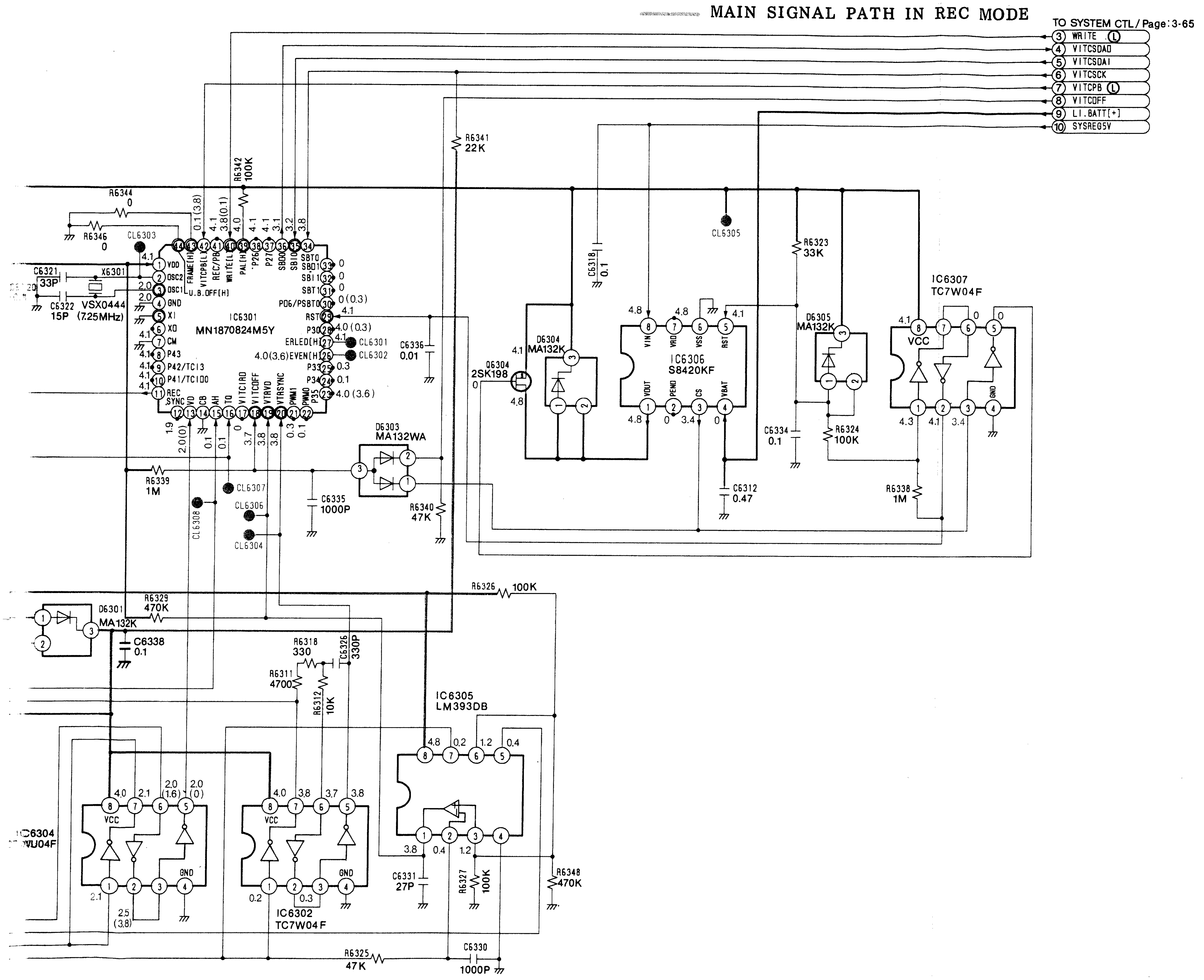
3-29. VITC SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
D
C
B
A
1
2
3
4
5
6
7
TO SYSTEM CTL / Page : 3-65
REG5V
GND
TO LUMI.CHRO / Page : 3-70
YFRMVITC
VITCY
YTDVITC
HSS
VITCGND
R6306 3900
R6305 1800
C6305 6P
R6310 6800
R6316 680
R6302 2200
VR6301 5KB
C6325 0.01
VITC LEVEL
L6302 100µ
C6301 6V10
C6309 0.1
C6324 6V100
C6320 0.1
C6321 33P
C6322 15P
X6301 VSX0444 (7.25MHz)
R6344 0
R6346 0
CL6303
R6342 100K
IC6301 MN1870824M5Y
VDD
OSC2
OSC1
GND
XI
XO
CM
P43
P42/TC13
P41/TC100
REC SYNC
FRAME(H)
VITCPB(L)
REC/PB
WRITE(L)
PAL(H)
P26
P27
SB0
SBTO
SBO1
SBI1
SBT1
PO6/PSBTO
RST
P30
ERLED(H)
EVEN(H)
P33
P34
P35
U.B.OFF(H)
VITCIRQ
VITCOFF
VTRVD
VTRSYNC
PWM1
PWM0
VD
CB
AH
IQ
CL6301
CL6302
CL6304
CL6305
CL6306
CL6307
CL6308
C6336 0.01
R6341 22K
R6339 1M
C6335 1000P
D6303 MA132WA
R6340 47K
C6318 0.1
Q6304 2SK198
D6304 MA132K
IC6306 S8420KF
VIN
VDD
VSS
RST
VOUT
PEND
CS
VBAT
C6312 0.47
R6323 33K
D6305 MA132K
C6334 0.1
R6324 100K
IC6307 TC7W04F
VCC
GND
R6338 1M
IC6303 BA7653F
GND
VCC
SW1
SW2
C6311 0.01
D6301 MA132K
R6329 470K
C6338 0.1
R6326 100K
R6319 10K
R6318 330
C6326 330P
R6311 4700
R6312 10K
IC6305 LM393DB
R6314 10K
Q6305 2SC4627 (AMP)
C6315 1
R6315 1M
IC6304 TC7WU04F
IC6302 TC7W04F
C6331 27P
R6327 100K
R6348 470K
R6325 47K
C6330 1000P

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE (S-VHS) WITH AIM THE CAMERA AT THE COLOUR CHART.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRA WITH PAL COLOUR SIGNAL.

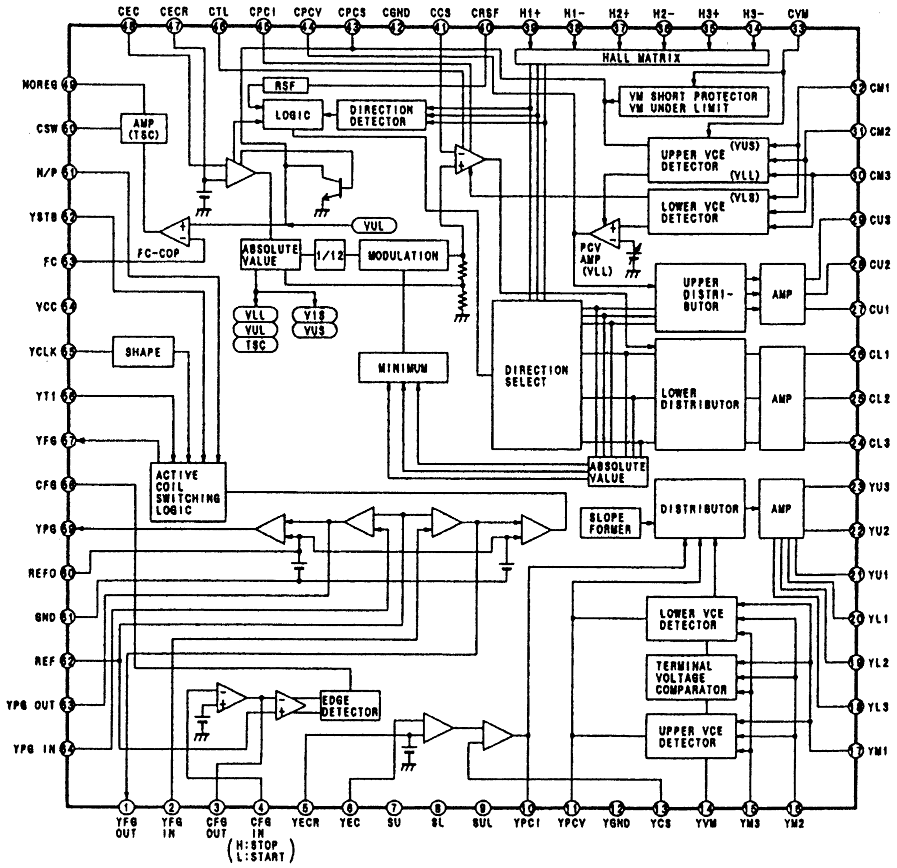

MAIN SIGNAL PATH IN REC MODE
TO SYSTEM CTL / Page: 3-65
3 WRITE (L)
4 VITCSDAO
5 VITCSDAI
6 VITCSCK
7 VITCPB (L)
8 VITCOFF
9 LI.BATT[+]
10 SYSREG5V
R6341 22K
R6342 100K
R6344 0
R6346 0
CL6303
C6321
X6301
33P
C6322 VSX0444
15P (7.25MHz)
IC6301
MN1870824M5Y
CL6301
CL6302
C6336 0.01
C6318 0.1
CL6305
R6323 33K
IC6307 TC7W04F
D6304 MA132K
D6304 2SK198
IC6306 S8420KF
D6305 MA132K
C6334 0.1
R6324 100K
C6312 0.47
R6338 1M
D6303 MA132WA
R6339 1M
CL6307
CL6306
CL6308
CL6304
C6335 1000P
R6340 47K
R6326 100K
R6329 470K
D6301 MA132K
C6338 0.1
R6318 330
C6326 330P
R6311 4700
R6312 10K
IC6305 LM393DB
C6331 27P
R6327 100K
R6348 470K
IC6302 TC7W04F
C6304 WU04F
C6330 1000P
R6325 47K

GE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE (S-VHS)
ART.

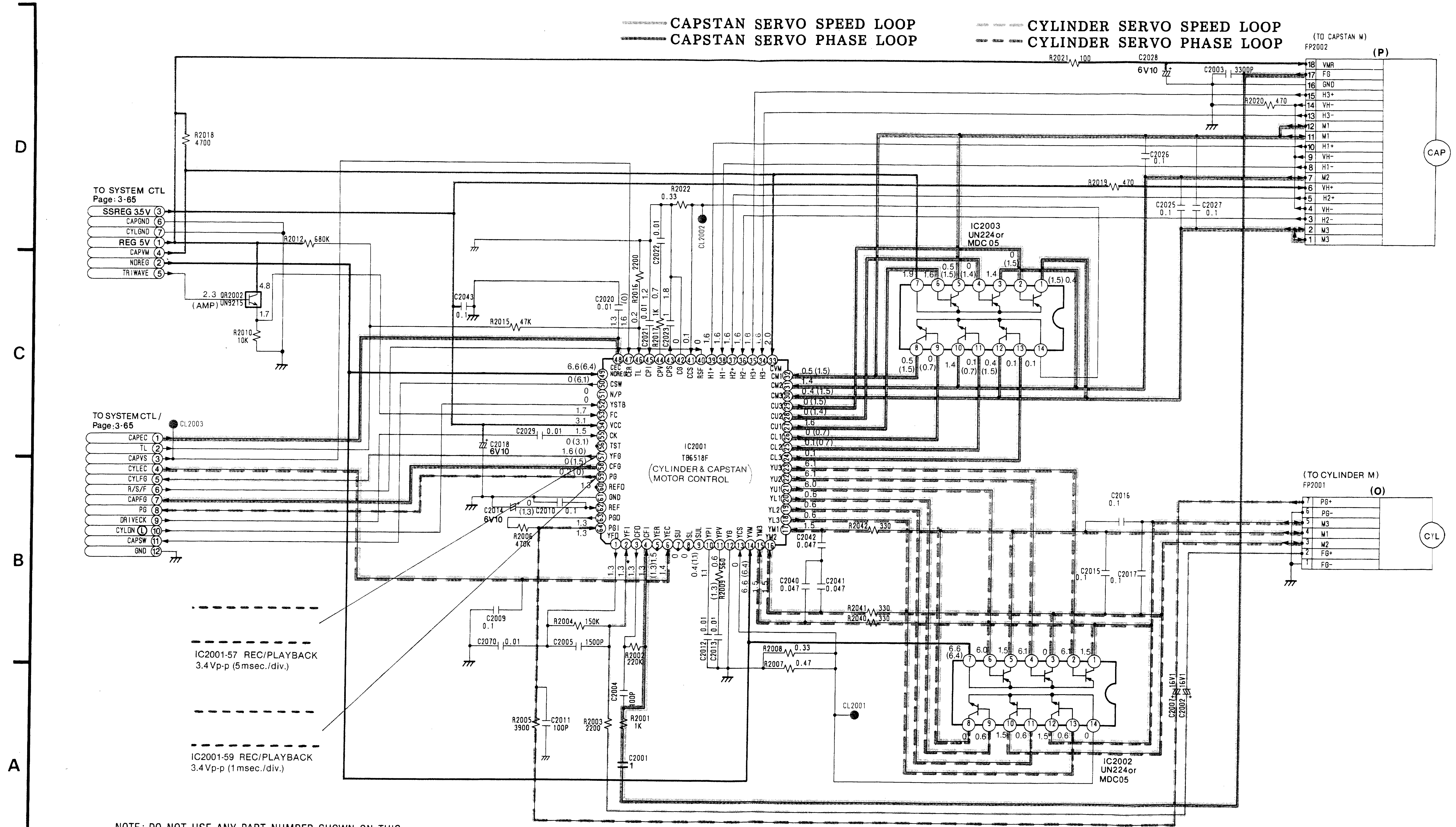
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

4 5 6 7

IC2001 (TB6518F)
(LOCATION: C-4)


HALL MATRIX
VM SHORT PROTECTOR VM UNDER LIMIT
UPPER VCE DETECTOR
LOWER VCE DETECTOR
AMP (TSC)
DIRECTION DETECTOR
LOGIC
RSF
FC-COP
ABSOLUTE VALUE
1/12
MODULATION
PCV AMP (VLL)
UPPER DISTRIBUTOR
AMP
SHAPE
MINIMUM
DIRECTION SELECT
LOWER DISTRIBUTOR
ACTIVE COIL SWITCHING LOGIC
ABSOLUTE VALUE
SLOPE FORMER
DISTRIBUTOR
TERMINAL VOLTAGE COMPARATOR
EDGE DETECTOR
(H:STOP L:START)

3-30. SUB SERVO SCHEMATIC DIAGRAM

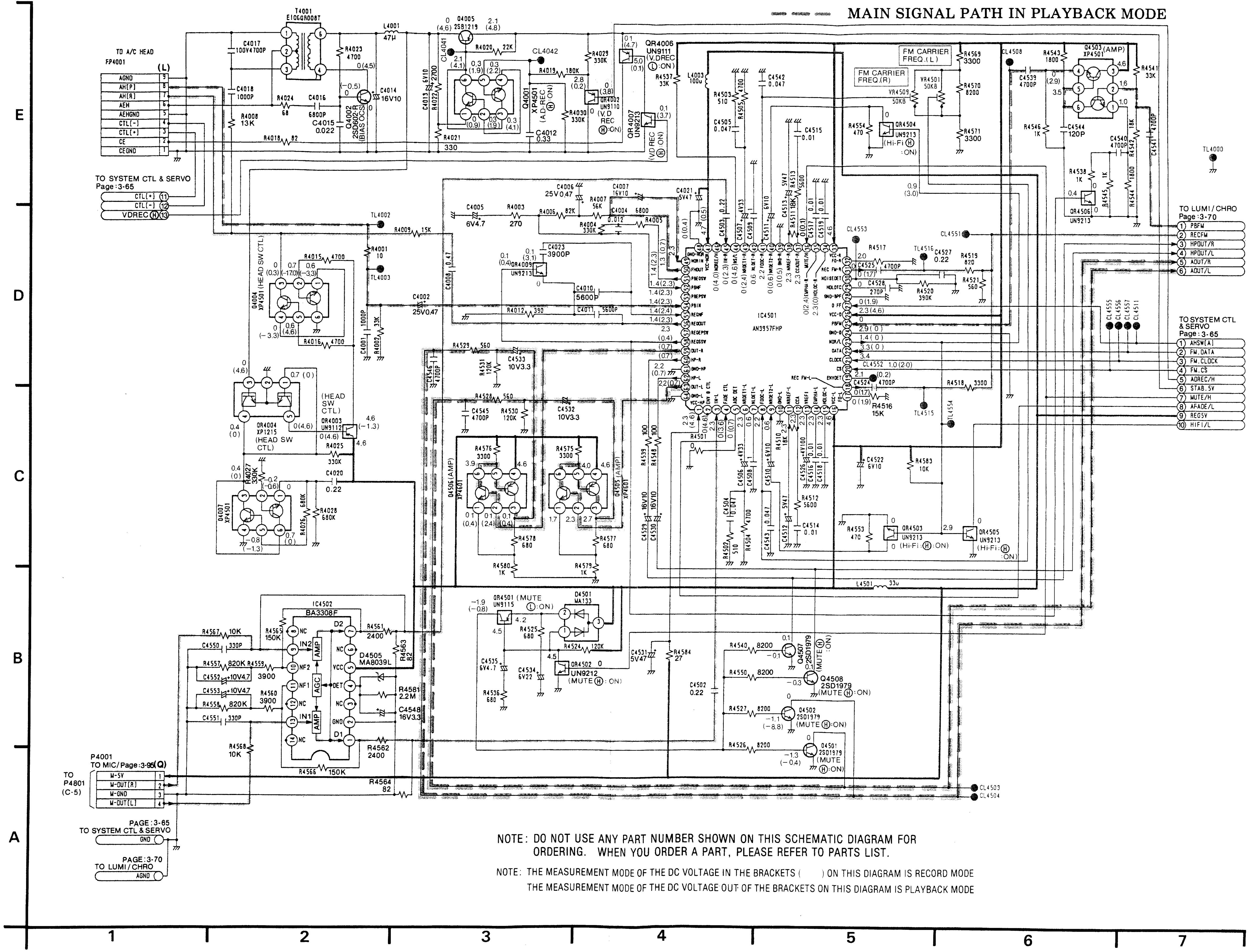

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
TO SYSTEM CTL Page: 3-65
SSREG 3.5V
CAPGND
CYLGND
REG 5V
CAPVM
NOREG
TRIWAVE
TO SYSTEM CTL / Page: 3-65
CAPEC
TL
CAPVS
CYLEC
CYLFG
R/S/F
CAPFG
PG
DRIVECK
CYLON
CAPSW
GND
CL2003
R2018 4700
R2012 680K
QR2002 UN9215 (AMP)
R2010 10K
R2015 47K
C2043 0.1
C2020 0.01
R2016 2200
C2022 0.01
R2017 1K
C2021 0.01
C2023 1
R2022 0.33
CL2002
C2018 6V10
C2029 0.01
C2014 6V10
C2010 0.1
R2006 470K
IC2001 TB6518F (CYLINDER & CAPSTAN MOTOR CONTROL)
CEC NOREG CSW N/P YSTB FC VCC CK TST YFG CFG PG REFO GND REF PGO PGI YFO
CER TL CPI CPV CPS CO CCS RSF H1+ H1- H2+ H2- H3+ H3-
CVM CM1 CM2 CM3 CU3 CU2 CU1 CL1 CL2 CL3 YU3 YU2 YU1 YL1 YL2 YL3 YM1 YM2
YFI CFO CFI YER YEC YSU YSL SUL YPI YPV YG YCS YVM YM3
IC2003 UN224 or MDC05
IC2002 UN224 or MDC05
(TO CAPSTAN M) FP2002 (P)
VMR FG GND H3+ VH- H3- M1 M1 H1+ VH- H1- M2 VH+ H2+ VH- H2- M3 M3
CAP
R2021 100
C2028 6V10
C2003 3300P
R2020 470
C2026 0.1
R2019 470
C2025 0.1
C2027 0.1
(TO CYLINDER M) FP2001 (O)
PG+ PG- M3 M1 M2 FG+ FG-
CYL
C2016 0.1
C2015 0.1
C2017 0.1
R2042 330
C2042 0.047
C2040 0.047
C2041 0.047
R2041 330
R2040 330
R2008 0.33
R2007 0.47
CL2001
C2007 16V1
C2002 16V1
C2009 0.1
C2070 0.01
R2004 150K
C2005 1500P
R2002 220K
C2004 100P
R2005 3900
C2011 100P
R2003 2200
R2001 1K
C2001 1
C2012 0.01
C2013 0.01
R2009 560
IC2001-57 REC/PLAYBACK
3.4Vp-p (5msec./div.)
IC2001-59 REC/PLAYBACK
3.4Vp-p (1msec./div.)
A
B
C
D
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

3-31. AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE



TO A/C HEAD
FP4001
(L)
AGND
AH(P)
AH(R)
AEH
AEHGND
CTL(-)
CTL(+)
CE
CEGND
TO SYSTEM CTL & SERVO
Page:3-65
CTL(+) ⑪
CTL(-) ⑫
VDREC Ⓗ ⑬
T4001
EIOGGR0087
C4017 100V4700P
C4018 1000P
R4008 13K
R4024 68
C4016 6800P
C4015 0.022
R4018 82
R4023 4700
L4001 47μ
C4014 16V10
Q4002 2SD882R (BIAS OSC)
Q4005 2SB1219
CL4041
R4022 2700
C4013 6V10
R4020 22K
R4021 330
Q4001 XP4501 (A.D.REC Ⓗ:ON)
CL4042
R4019 180K
R4029 330K
R4030 330K
C4012 0.33
QR4002 UN9110 (V.D REC Ⓗ:ON)
QR4006 UN9111 (V.DREC Ⓛ:ON)
QR4007 UN9213 (VD REC Ⓗ:ON)
R4537 33K
L4003 100u
TL4002
TL4003
R4001 10
R4009 15K
Q4004 XP4501 (HEAD SW CTL)
R4015 4700
R4016 4700
C4001 1000P
R4002 33K
C4002 25V0.47
C4005 6V4.7
R4003 270
C4006 25V0.47
R4006 82K
R4007 56K
C4007 16V10
C4004 6800
R4004 330K
R4005
C4021 5V47
C4023 3900P
QR4009 UN9213
C4010 5600P
C4011 5600P
R4012 390
QR4004 XP1215 (HEAD SW CTL)
QR4003 UN9112
R4025 330K
R4027 330K
C4020 0.22
Q4007 XP4501
R4026 680K
R4028 680K
IC4501
AN3957FHP
FM CARRIER FREQ.(L)
FM CARRIER FREQ.(R)
VR4501 50KB
VR4509 50KB
R4569 3300
R4570 8200
R4571 3300
R4554 470
QR4504 UN9213 (Hi-Fi Ⓗ:ON)
C4542 0.047
R4503 510
C4505 0.047
C4515 0.01
CL4508
R4543 1800
Q4503 (AMP) XP4501
C4539 4700P
R4541 33K
R4546 1K
C4544 120P
C4540 4700P
R4542 18K
C4541 4700P
R4538 1K
R4545 1K
R4544 1800
QR4506 UN9213
TL4000
CL4553
CL4551
R4517
TL4516
C4527 0.22
R4519 820
C4525 4700P
C4528 270P
R4520 390K
R4521 560
CL4552 1.0(2.0)
C4524 4700P
R4516 15K
TL4515
R4518 3300
TL4514
CL4555
CL4556
CL4557
CL4511
TO LUMI/CHRO
Page:3-70
① PBFM
② RECFM
③ HPOUT/R
④ HPOUT/L
⑤ AOUT/R
⑥ AOUT/L
TO SYSTEM CTL & SERVO
Page:3-65
① AHSW(A)
② FM.DATA
③ FM.CLOCK
④ FM.CS
⑤ ADREC/H
⑥ STAB.5V
⑦ MUTE/H
⑧ AFADE/L
⑨ REGSV
⑩ HIFI/L
R4529 560
R4531 120K
C4533 10V3.3
C4546 4700P
R4528 560
C4545 4700P
R4530 120K
C4532 10V3.3
Q4506 (AMP) XP4601
Q4505 (AMP) XP4601
R4576 3300
R4575 3300
R4578 680
R4577 680
R4580 1K
R4579 1K
R4501
C4522 6V10
R4583 10K
R4512 5600
C4514 0.01
R4553 470
QR4503 UN9213 (Hi-Fi Ⓗ:ON)
QR4505 UN9213 (Hi-Fi Ⓗ:ON)
L4501 33u
IC4502
BA3308F
R4567 10K
C4550 330P
R4565 150K
R4557 820K
R4559 3900
C4552 10V4.7
C4553 10V4.7
R4560 3900
R4558 820K
C4551 330P
R4568 10K
R4561 2400
R4563 82
D4505 MA8039L
R4581 2.2M
C4548 16V3.3
R4562 2400
R4566 150K
R4564 82
QR4501 (MUTE Ⓛ:ON) UN9115
D4501 MA133
R4525 680
R4524 120K
C4535 6V4.7
C4534 6V22
QR4502 UN9212 (MUTE Ⓗ:ON)
R4536 680
C4531 5V47
R4584 27
C4502 0.22
R4540 8200
Q4507 2SD1979 (MUTE Ⓗ:ON)
R4550 8200
Q4508 2SD1979 (MUTE Ⓗ:ON)
R4527 8200
Q4502 2SD1979 (MUTE Ⓗ:ON)
R4526 8200
Q4501 2SD1979 (MUTE Ⓗ:ON)
CL4503
CL4504
P4001
TO MIC/Page:3-95(Q)
TO P4801 (C-5)
M-5V
M-OUT(R)
M-GND
M-OUT(L)
PAGE:3-65
TO SYSTEM CTL & SERVO
GND
PAGE:3-70
TO LUMI/CHRO
AGND
E
D
C
B
A
1
2
3
4
5
6
7

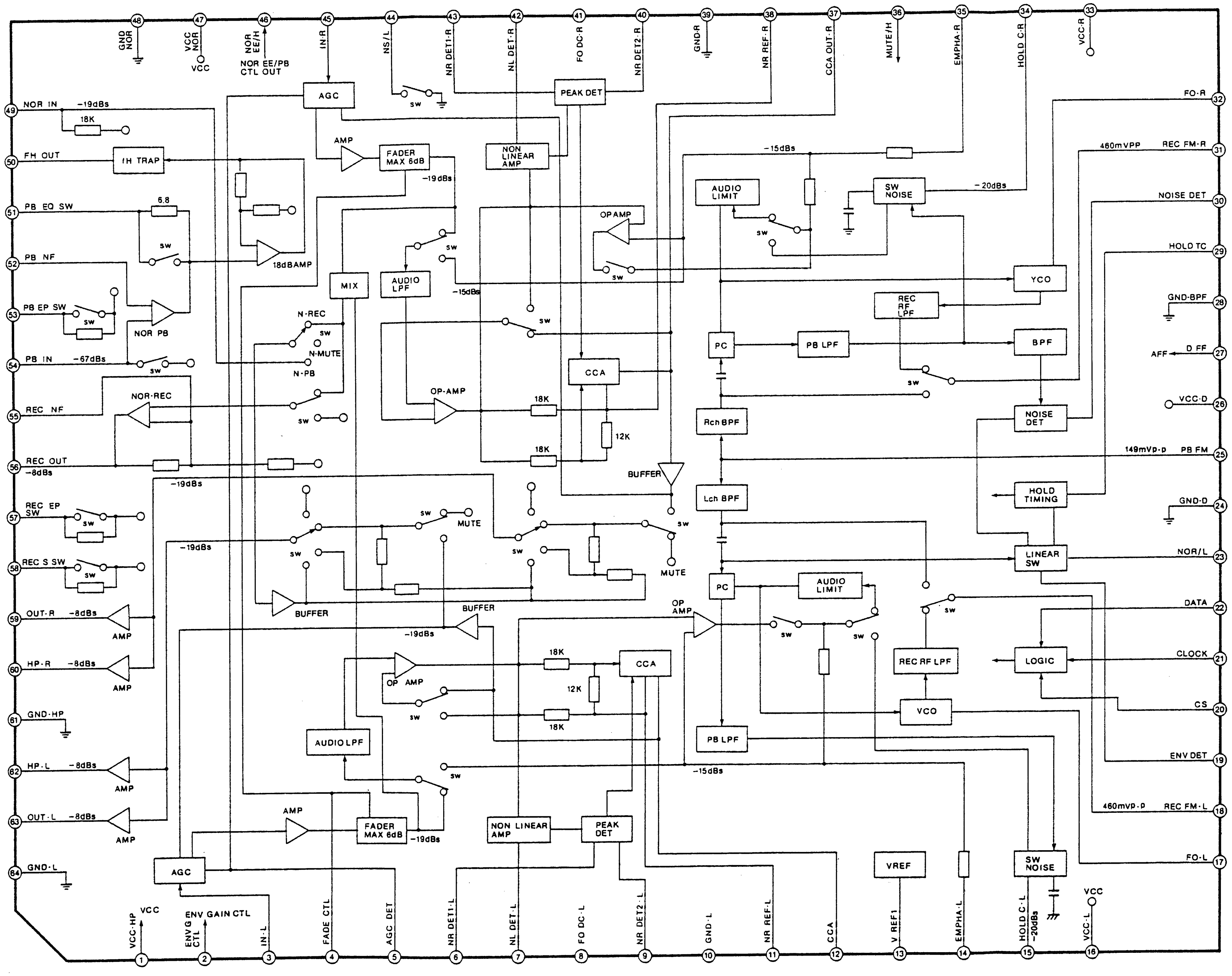
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

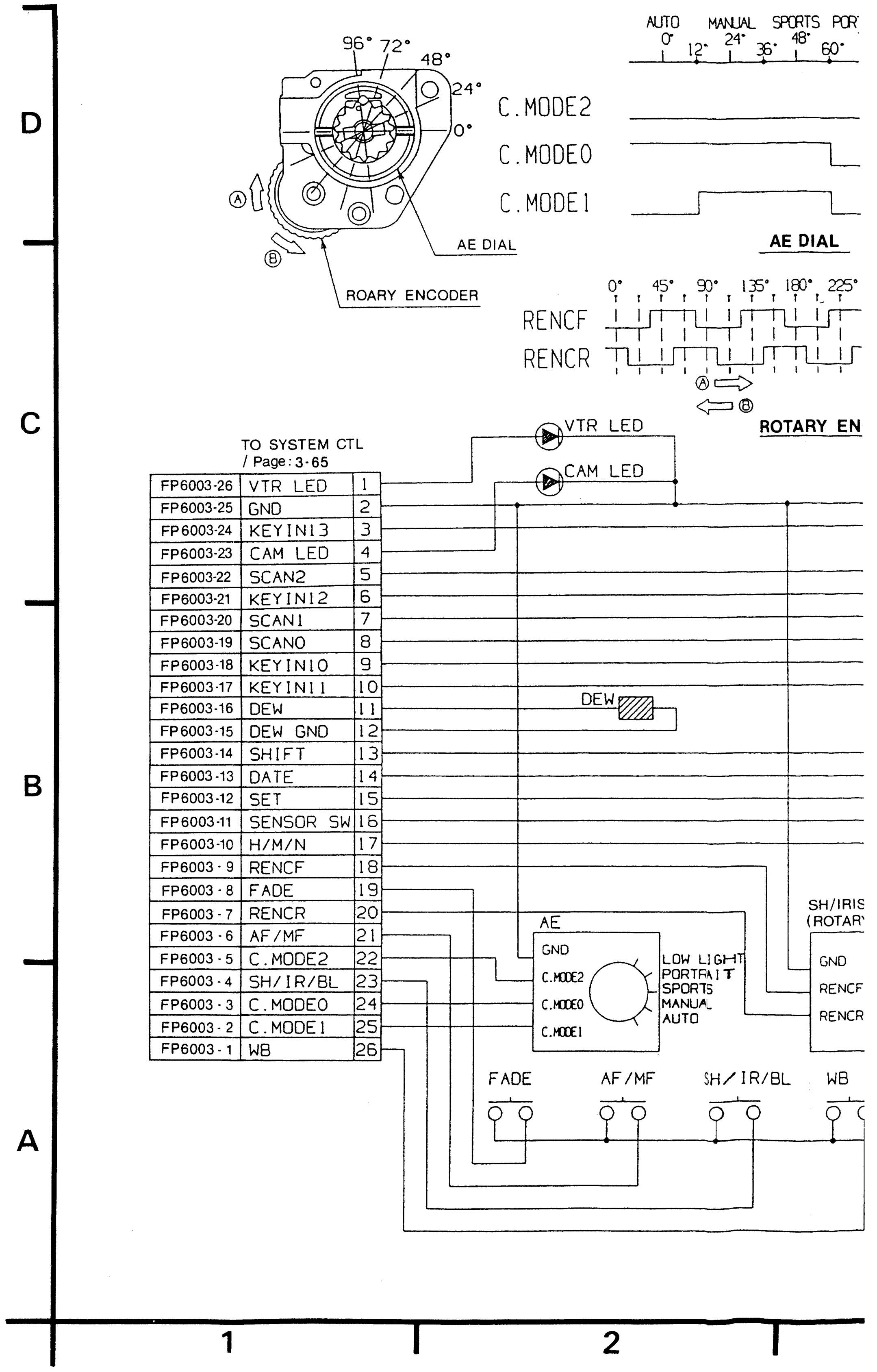
Back Page:
SUB SERVO Section

IC BLOCK

IC4501 (AN3957FAP)
(LOCATION: D-4)


48 GND NOR
47 VCC NOR
VCC
46 NOR EE/H
NOR EE/PB CTL OUT
45 IN-R
44 NS/L
43 NR DET1-R
42 NL DET-R
41 FO DC-R
40 NR DET2-R
39 GND-R
38 NR REF-R
37 CCA OUT-R
36 MUTE/H
35 EMPHA-R
34 HOLD C-R
33 VCC-R
32 FO-R
480mVPP
31 REC FM-R
30 NOISE DET
29 HOLD TC
28 GND-BPF
27 D FF
AFF
26 VCC-D
149mVp-p
25 PB FM
24 GND-D
23 NOR/L
22 DATA
21 CLOCK
20 CS
19 ENV DET
480mVp-p
18 REC FM-L
17 FO-L
49 NOR IN -19dBs
50 FH OUT
51 PB EQ SW
52 PB NF
53 PB EP SW
54 PB IN -67dBs
55 REC NF
56 REC OUT -8dBs
57 REC EP SW
58 REC S SW
59 OUT-R -8dBs
60 HP-R -8dBs
61 GND-HP
62 HP-L -8dBs
63 OUT-L -8dBs
64 GND-L
1 VCC-HP
VCC
ENV GAIN CTL
2 ENV G CTL
3 IN-L
4 FADE CTL
5 AGC DET
6 NR DET1-L
7 NL DET-L
8 FO DC-L
9 NR DET2-L
10 GND-L
11 NR REF-L
12 CCA
13 V REF1
14 EMPHA-L
15 HOLD C-L -20dBs
VCC
16 VCC-L
AGC
PEAK DET
AMP
FADER MAX 6dB
-19dBs
NON LINEAR AMP
-15dBs
AUDIO LIMIT
SW NOISE
-20dBs
FH TRAP
18K
5.8
SW
18dBAMP
OPAMP
MIX
AUDIO LPF
-15dBs
YCO
REC RF LPF
NOR PB
N-REC
N-MUTE
N-PB
PC
PB LPF
BPF
CCA
NOR·REC
OP-AMP
18K
12K
RchBPF
NOISE DET
BUFFER
Lch BPF
HOLD TIMING
MUTE
LINEAR SW
BUFFER
OP AMP
AUDIO LIMIT
REC RF LPF
LOGIC
VCO
AUDIO LPF
PB LPF
FADER MAX 6dB
NON LINEAR AMP
PEAK DET
VREF
SW NOISE

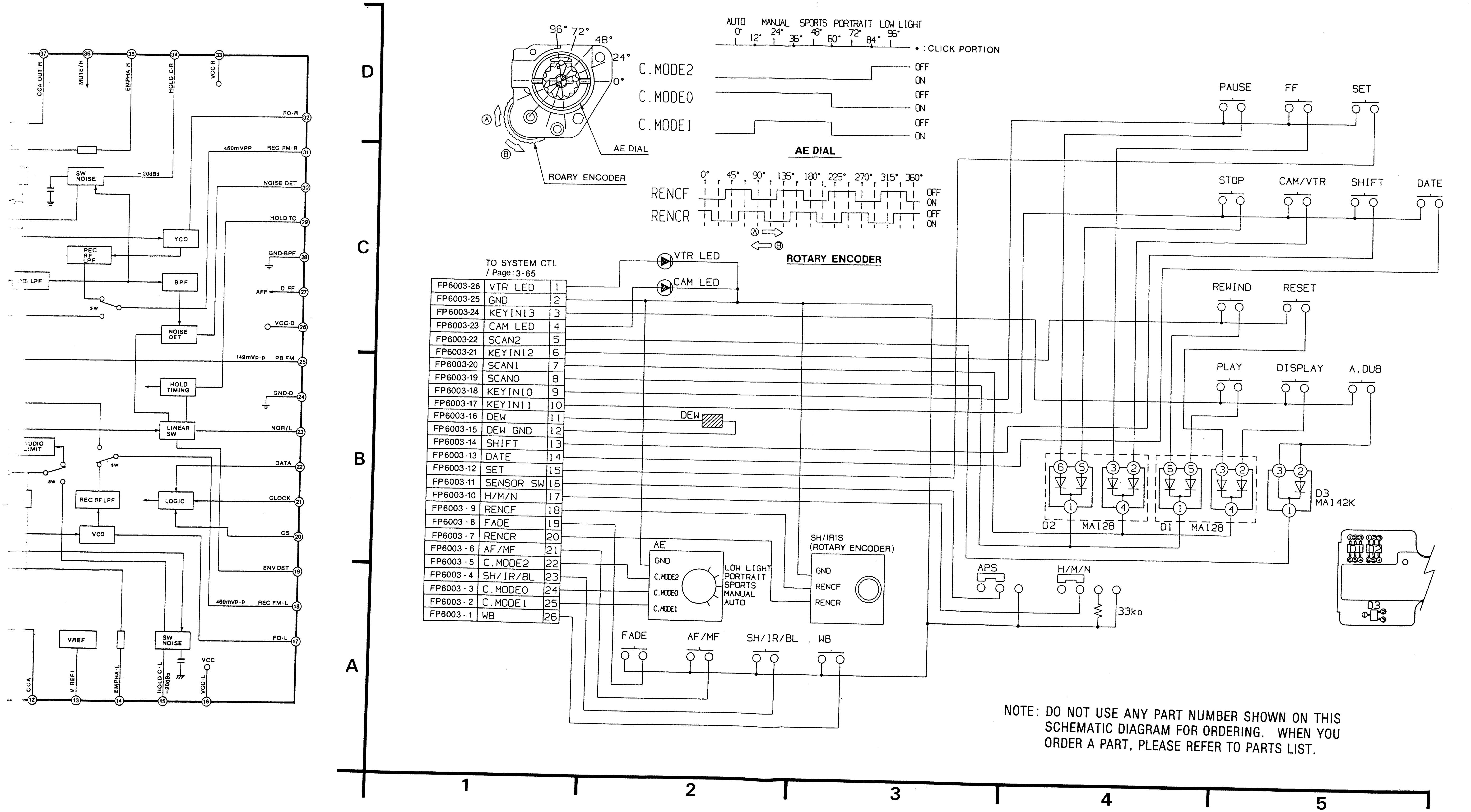
3-32. CAMERA/VTR OPERATION SCHEMATIC DIAGRA


D
C
B
A
1
2
AUTO
MANUAL
SPORTS
POR
0°
12°
24°
36°
48°
60°
96°
72°
48°
24°
0°
C.MODE2
C.MODE0
C.MODE1
Ⓐ
Ⓑ
AE DIAL
ROARY ENCODER
AE DIAL
0°
45°
90°
135°
180°
225°
RENCF
RENCR
Ⓐ
Ⓑ
ROTARY EN
VTR LED
CAM LED
DEW
AE
GND
C.MODE2
C.MODE0
C.MODE1
LOW LIGHT
PORTRAIT
SPORTS
MANUAL
AUTO
SH/IRIS
(ROTAR
GND
RENCF
RENCR
FADE
AF/MF
SH/IR/BL
WB

TO SYSTEM CTL
/ Page: 3-65

FP6003-26	VTR LED	1
FP6003-25	GND	2
FP6003-24	KEYIN13	3
FP6003-23	CAM LED	4
FP6003-22	SCAN2	5
FP6003-21	KEYIN12	6
FP6003-20	SCAN1	7
FP6003-19	SCAN0	8
FP6003-18	KEYIN10	9
FP6003-17	KEYIN11	10
FP6003-16	DEW	11
FP6003-15	DEW GND	12
FP6003-14	SHIFT	13
FP6003-13	DATE	14
FP6003-12	SET	15
FP6003-11	SENSOR SW	16
FP6003-10	H/M/N	17
FP6003-9	RENCF	18
FP6003-8	FADE	19
FP6003-7	RENCR	20
FP6003-6	AF/MF	21
FP6003-5	C.MODE2	22
FP6003-4	SH/IR/BL	23
FP6003-3	C.MODE0	24
FP6003-2	C.MODE1	25
FP6003-1	WB	26

3-32. CAMERA/VTR OPERATION SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
CCA OUT-R
MUTE/H
EMPHA-R
HOLD C-R
VCC-R
FO-R
460mVPP
REC FM-R
SW NOISE
-20dBs
NOISE DET
HOLD TC
YCO
REC RF LPF
GND-BPF
BPF
AFF
D FF
VCC-D
NOISE DET
149mVp-p
PB FM
HOLD TIMING
GND-D
LINEAR SW
NOR/L
DATA
REC RF LPF
LOGIC
CLOCK
VCO
CS
ENV DET
460mVp-p
REC FM-L
VREF
SW NOISE
FO-L
VCC
CCA
V REF1
EMPHA-L
HOLD C-L -20dBs
VCC-L
96° 72° 48° 24° 0°
AE DIAL
ROARY ENCODER
AUTO 0°
MANUAL 24°
SPORTS 48°
PORTRAIT 72°
LOW LIGHT 96°
12° 36° 60° 84°
• : CLICK PORTION
C.MODE2
C.MODE0
C.MODE1
OFF
ON
AE DIAL
0° 45° 90° 135° 180° 225° 270° 315° 360°
RENCF
RENCR
ROTARY ENCODER
VTR LED
CAM LED
TO SYSTEM CTL / Page: 3-65
FP6003-26 VTR LED 1
FP6003-25 GND 2
FP6003-24 KEYIN13 3
FP6003-23 CAM LED 4
FP6003-22 SCAN2 5
FP6003-21 KEYIN12 6
FP6003-20 SCAN1 7
FP6003-19 SCAN0 8
FP6003-18 KEYIN10 9
FP6003-17 KEYIN11 10
FP6003-16 DEW 11
FP6003-15 DEW GND 12
FP6003-14 SHIFT 13
FP6003-13 DATE 14
FP6003-12 SET 15
FP6003-11 SENSOR SW 16
FP6003-10 H/M/N 17
FP6003-9 RENCF 18
FP6003-8 FADE 19
FP6003-7 RENCR 20
FP6003-6 AF/MF 21
FP6003-5 C.MODE2 22
FP6003-4 SH/IR/BL 23
FP6003-3 C.MODE0 24
FP6003-2 C.MODE1 25
FP6003-1 WB 26
DEW
AE
GND
C.MODE2
C.MODE0
C.MODE1
LOW LIGHT
PORTRAIT
SPORTS
MANUAL
AUTO
SH/IRIS (ROTARY ENCODER)
GND
RENCF
RENCR
FADE
AF/MF
SH/IR/BL
WB
PAUSE
FF
SET
STOP
CAM/VTR
SHIFT
DATE
REWIND
RESET
PLAY
DISPLAY
A.DUB
D2 MA128
D1 MA128
D3 MA142K
APS
H/M/N
33kΩ
D1
D2
D3

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Next Page:
VTR MAIN C.B.A. Section

VTR MAIN C.B.A.

Integrated Circuit

IC2001	D-2
IC2002	E-15
IC2003	D-15
IC3001	E-5
IC3003	F-12
IC3005	F-11
IC3501	C-4
IC3502	D-5
IC3503	D-12
IC3504	C-11
IC3505	C-12
IC3590	F-11
IC4501	C-14
IC4502	B-15
IC5001	F-14
IC5501	F-10
IC5502	D-9
IC6001	B-10
IC6002	B-6
IC6003	C-7
IC6004	B-6
IC6005	A-9
IC6006	A-10
IC6007	B-9
IC6008	C-9
IC6009	B-11
IC6010	B-6
IC6301	B-13
IC6302	B-12
IC6303	E-12
IC6304	B-4
IC6305	B-3
IC6306	B-12
IC6307	B-5
IC6401	F-17
IC6402	F-17
IC6403	D-16
IC6404	D-17

Transistor

Q3001	D-10
Q3002	E-10
Q3003	E-12
Q3004	E-12
Q3005	D-3
Q3006	F-4
Q3008	F-4
Q3009	F-4
Q3010	F-4
Q3012	F-12
Q3014	E-11
Q3020	D-10
Q3021	D-11
Q3026	E-11
Q3027	E-11
Q3221	D-6
Q3501	C-12
Q3502	D-4
Q3503	C-3
Q3504	D-12
Q3505	C-12
Q3507	C-12
Q3508	D-11
Q3509	C-12
Q3510	C-11
Q3511	C-11
Q3513	C-13
Q3514	C-11
Q3515	C-13
Q3516	C-13
Q3517	D-12
Q3518	B-13
Q3519	C-11
Q4001	D-13
Q4002	D-14
Q4004	C-14
Q4005	D-14
Q4007	D-13
Q4501	A-2
Q4502	A-2
Q4503	D-13
Q4505	B-13
Q4506	A-14
Q4507	A-2
Q4508	A-2
Q5001	F-13
Q5002	F-14
Q5005	F-13
Q5501	E-6
Q5502	F-9
Q5503	E-7
Q5504	E-6
Q5505	E-9
Q5506	D-9
Q5507	E-9
Q5508	D-9
Q5509	F-9
Q5510	E-9
Q6002	A-9
Q6004	C-10
Q6005	B-11
Q6008	A-8
Q6009	C-11
Q6201	C-10
Q6304	B-12
Q6305	B-4

Transistor & Resistor

QR2002	D-15
QR3001	F-13
QR3002	D-13
QR3004	E-13
QR3009	F-10
QR3013	F-13
QR3014	F-13
QR3002	E-11
QR3023	D-11
QR3501	C-4
QR4002	D-14
QR4003	D-13
QR4004	D-14
QR4006	E-14
QR4007	E-14
QR4009	C-13
QR4501	E-3
QR4502	D-3
QR4503	C-3
QR4504	C-15
QR4505	C-3
QR4506	D-13
QR5001	E-13
QR5003	E-3
QR5501	F-6
QR5502	F-7
QR5503	F-7
QR6001	C-8
QR6002	C-9
QR6003	A-9
QR6004	B-5
QR6005	A-9
QR6006	B-8
QR6007	B-5
QR6008	B-5
QR6009	B-5
QR6010	B-11
QR6012	B-5
QR6014	B-5
QR6015	B-11
QR6016	B-12
QR6017	B-11
QR6018	C-6
QR6019	A-10
QR6401	D-17

Diode

D3001	F-11
D3002	F-5
D3003	E-12
D3004	D-11
D3501	C-5
D3502	D-3
D3503	C-12
D3504	C-4
D3590	F-12
D4501	E-3
D4505	B-15
D5001	F-3
D5501	E-11
D5502	E-10
D5503	E-11
D6001	B-9
D6005	B-8
D6010	B-11
D6011	A-11
D6012	A-11
D6013	A-9
D6014	D-10
D6015	C-10
D6016	B-7
D6017	D-9
D6018	A-7
D6201	C-6
D6301	B-4
D6303	B-4
D6304	B-12
D6305	B-4

Transformer

T4001	D-2

Test Point

CL2001	E-2
CL2002	C-1
CL2003	D-2
CL3001	E-4
CL3003	E-4
CL3004	A-8
CL3005	F-4
CL3006	F-4
CL3008	E-4
CL3009	E-6
CL3010	F-5
CL3013	D-5
CL3014	D-5
CL3015	F-5
CL3016	D-4
CL3017	E-4
CL3020	A-2
CL3501	C-3
CL3502	C-5
CL3503	C-5
CL4041	D-3
CL4042	D-3
CL4503	A-2
CL4504	B-3
CL4508	D-3
CL4511	B-2
CL4551	B-3
CL4552	B-3
CL4553	B-2
CL4555	B-2
CL4556	B-2
CL4557	B-3
CL5001	F-3
CL5002	E-2
CL5003	E-2
CL5501	F-8
CL5502	E-7
CL5503	E-6
CL5504	E-7
CL5512	E-3
CL6001	C-6
CL6002	B-6
CL6003	D-6
CL6004	D-6
CL6005	C-6
CL6006	C-5
CL6007	C-6
CL6008	C-6
CL6009	B-7
CL6011	B-5
CL6012	B-7
CL6204	C-6
CL6206	B-7
CL6207	B-6
CL6208	B-7
CL6209	B-7
CL6211	D-6
CL6212	C-6
CL6214	D-6
CL6301	B-4
CL6302	B-4
CL6303	B-3
CL6304	B-4
CL6305	B-4
CL6306	B-4
CL6307	B-3
CL6308	B-3
CL6401	F-17
CL6402	F-17
CL6403	F-17
CL6404	F-17
CL6405	F-16
TL3001	E-7
TL3003	E-4
TL3004	D-4
TL3005	F-6
TL3502	C-4
TL3504	C-4
TL3507	D-4
TL4000	B-1
TL4002	C-2
TL4003	C-2
TL4515	B-3
TL4516	B-2
TL4554	C-3
TL5001	F-2
TL5002	F-2
TL5003	F-3
TL5004	F-4
TL5501	F-6
TL5502	E-6
TL5503	E-7
TL5504	E-6
TL5505	D-4
TL6001	B-8
TL6002	B-7
TL6003	B-7
TL6004	A-6
TL6005	B-8
TP3001	A-15
TP5001	A-15

Adjustment

VR3004	E-4
VR3005	D-4
VR3006	E-4
VR3007	F-4
VR3008	F-5
VR3501	C-4
VR3503	B-5
VR3504	D-3
VR3505	D-4
VR4501	C-3
VR4509	D-3
VR5502	F-7
VR5503	E-7
VR6301	D-3

Connector

B6004	D-7
FP2001	E-15
FP2002	C-1
FP3001	B-7
FP3003	D-7
FP4001	C-2
FP5001	F-2
FP6001	A-6
FP6002	A-6
FP6003	F-7
P4001	A-15
P6004	F-5
P6006	B-2
PJ6001	C-8
PP3002	A-3

Crystal

X5501	F-6
X6001	C-6
X6002	B-5
X6003	C-6
X6301	A-3

Filter

FL3001	E-6
FL3501	D-4
FL5501	E-7

Coil

L3001	E-11
L3002	D-11
L3003	E-11
L3004	E-12
L3005	D-13
L3006	E-12
L3007	E-12
L3010	E-3
L3011	F-4
L3012	F-4
L3015	F-5
L3017	F-12
L3018	F-12
L3019	E-12
L3021	F-4
L3026	E-12
L3030	F-12
L3501	D-13
L3502	C-12
L3503	C-12
L3504	D-13
L3505	C-5
L3506	D-11
L3507	D-12
L3508	D-11
L3509	D-11
L3510	D-13
L3511	C-12
L4001	D-14
L4003	D-2
L4501	E-3
L5001	E-13
L5002	E-3
L5003	E-3
L5004	E-2
L5005	F-2
L5006	F-2
L5007	F-3
L5501	E-6
L5502	F-10
L5503	F-9
L5504	E-6
L5505	E-7
L5506	E-10
L5507	D-10
L5508	E-10
L5509	E-9
L5511	E-9
L6001	D-6
L6002	C-9
L6302	D-12

Capacitor

C2001	D-14
C2002	D-15
C2003	C-1
C2004	E-14
C2005	E-14
C2007	E-15
C2009	E-14
C2010	D-14
C2011	D-14
C2012	E-2
C2013	E-2
C2014	D-14
C2015	E-15
C2016	E-15
C2017	E-15
C2018	D-14
C2020	D-14
C2021	D-2
C2022	D-2
C2023	D-14
C2025	C-15
C2026	C-15
C2027	C-15
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C2029	D-14
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C2042	E-1
C2043	D-14
C2070	E-14
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C3011	E-12
C3012	F-12
C3013	E-12
C3014	E-12
C3015	D-12
C3016	D-12
C3017	E-13
C3018	D-12
C3019	D-12
C3020	E-6
C3021	E-12
C3022	E-12
C3029	D-3
C3030	E-3
C3031	F-5
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C3039	D-11
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C4005	C-2
C4006	C-2
C4007	C-2
C4008	C-14
C4010	C-14
C4011	C-14
C4012	D-13
C4013	D-14
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C4015	D-14
C4016	C-14
C4017	D-14
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C6039	A-11
C6040	C-9
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C6211	B-9
C6213	B-7
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C6221	B-8
C6230	C-7
C6231	C-9
C6301	D-12
C6305	C-4
C6309	D-12
C6311	E-11
C6312	B-11
C6315	B-4
C6318	A-12
C6320	B-4
C6321	B-3
C6322	A-3
C6324	B-4
C6325	E-12
C6326	B-12
C6330	B-13
C6331	B-4
C6334	B-4
C6335	B-13
C6336	A-4
C6338	B-12
C6401	F-17
C6402	F-17
C6403	E-17

Resistor

R2001	E-14
R2002	E-14
R2003	D-14
R2004	E-14
R2005	E-15
R2006	D-14
R2007	E-15
R2008	E-15
R2009	E-2
R2010	D-2
R2012	E-12
R2015	D-14
R2016	D-14
R2017	D-2
R2018	D-1
R2019	C-15
R2020	D-14
R2021	D-1
R2022	D-15
R2040	E-2
R2041	E-2
R2042	E-1
R3001	D-10
R3002	E-11
R3003	F-12
R3004	F-12
R3005	F-12
R3006	F-12
R3009	D-4
R3010	D-12
R3011	D-13
R3012	D-12
R3013	E-12
R3014	E-12
R3015	E-13
R3016	D-6
R3017	D-13
R3018	D-13
R3019	E-4
R3020	E-4
R3021	E-12
R3022	E-12
R3023	E-13
R3024	D-4
R3025	E-6
R3026	E-3
R3030	D-6
R3031	F-4
R3033	F-4
R3034	E-11
R3038	D-11
R3040	D-10
R3041	D-10
R3042	F-5
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R3045	F-12
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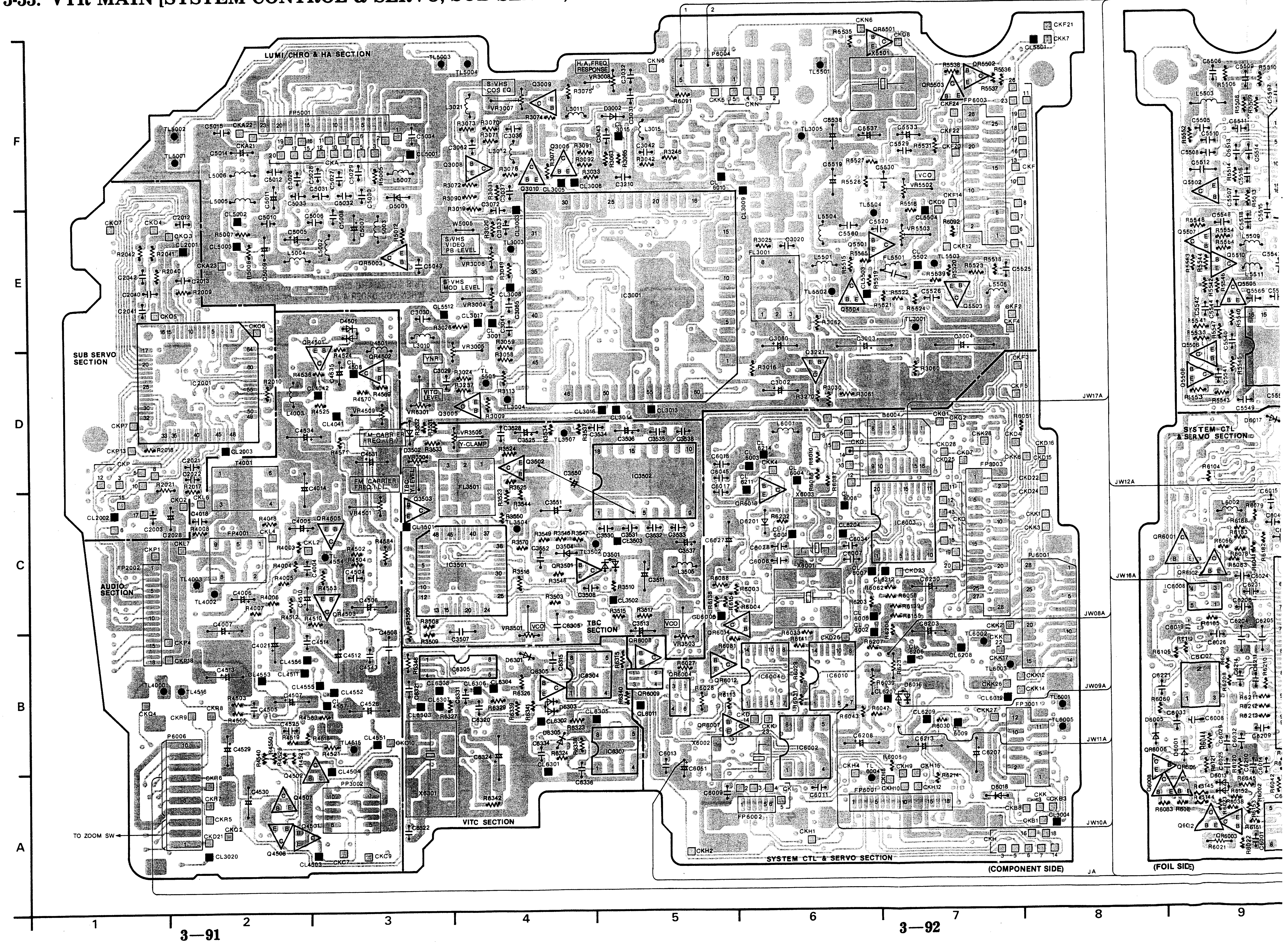
R3051	F-11
R3052	F-11
R3053	F-11
R3055	F-11
R3056	F-11
R3058	D-4
R3059	E-4
R3060	D-7
R3061	D-6
R3062	E-6
R3063	F-5
R3064	E-12
R3065	F-5
R3070	F-4
R3071	F-4
R3072	F-3
R3073	F-4
R3074	F-4
R3075	F-4
R3076	F-4
R3077	F-4
R3078	F-11
R3080	E-11
R3081	E-11
R3084	F-11
R3089	F-12
R3090	F-3
R3091	F-4
R3092	F-4
R3097	F-11
R3098	D-11
R3107	E-12
R3113	D-4
R3114	E-11
R3115	E-11
R3116	E-11
R3131	D-11
R3225	E-13
R3237	D-4
R3244	E-12
R3245	E-12
R3246	F-5
R3247	D-11
R3270	D-6
R3501	B-12
R3502	B-12
R3503	C-4
R3504	C-12
R3505	C-12
R3506	C-3
R3508	C-3
R3509	B-3
R3510	C-5
R3511	C-12
R3512	C-12
R3513	C-12
R3514	C-12
R3515	C-5
R3516	C-4

ADDRESS INFORMATION

VTR MAIN C.B.A.

	C2018	D-14	C3513	C-5	C4519	B-14	C5515	E-9	C6039	A-11	R3018	D-13	R3517	C-5	R4028	D-14	R5503	F-10	R6030	B-7	R6206	B-7
	C2020	D-14	C3515	C-13	C4522	B-15	C5516	F-9	C6040	C-9	R3019	E-4	R3518	C-13	R4029	D-14	R5504	F-10	R6031	B-6	R6207	B-6
F-6	C2021	D-2	C3516	C-13	C4524	B-14	C5517	F-9	C6041	C-9	R3020	E-4	R3519	C-12	R4030	D-14	R5505	F-10	R6032	C-10	R6208	B-9
C-6	C2022	D-2	C3517	C-12	C4525	B-2	C5518	E-9	C6045	D-5	R3021	E-12	R3520	C-12	R4501	B-13	R5506	F-9	R6033	B-6	R6209	B-9
B-5	C2023	D-14	C3518	C-13	C4526	B-3	C5519	F-6	C6050	F-15	R3022	E-12	R3521	C-13	R4502	C-3	R5508	F-9	R6034	A-11	R6210	B-9
C-6	C2025	C-15	C3519	C-12	C4527	B-14	C5520	E-6	C6051	A-15	R3023	E-13	R3522	C-13	R4503	B-2	R5509	F-9	R6035	C-10	R6211	B-9
A-3	C2026	C-15	C3520	C-13	C4528	B-14	C5521	E-10	C6201	C-10	R3024	D-4	R3523	C-4	R4504	C-3	R5510	F-9	R6036	A-11	R6212	B-9
	C2027	C-15	C3521	C-13	C4529	B-2	C5522	E-10	C6203	C-7	R3025	E-6	R3524	D-4	R4505	B-2	R5511	F-10	R6037	B-11	R6213	B-9
	C2028	C-2	C3522	C-13	C4530	A-2	C5523	E-9	C6204	B-9	R3026	E-3	R3525	D-4	R4510	C-2	R5512	E-9	R6038	A-9	R6214	A-7
E-6	C2029	D-14	C3523	C-13	C4531	D-3	C5524	E-9	C6205	B-9	R3030	D-6	R3526	C-12	R4511	B-14	R5513	E-9	R6039	B-6	R6231	B-7
D-4	C2040	E-1	C3524	C-12	C4532	A-13	C5525	E-7	C6206	C-9	R3031	F-4	R3527	D-12	R4512	C-2	R5514	F-9	R6041	C-9	R6232	C-6
E-7	C2041	E-1	C3525	D-4	C4533	A-14	C5526	E-7	C6207	B-7	R3033	F-4	R3528	D-13	R4513	C-15	R5515	E-6	R6042	A-9	R6233	C-10
	C2042	E-1	C3526	D-13	C4534	D-2	C5527	E-10	C6208	B-6	R3034	E-11	R3530	C-12	R4516	B-13	R5516	E-7	R6043	B-6	R6234	C-10
	C2043	D-14	C3527	D-13	C4535	D-3	C5528	E-10	C6209	B-9	R3038	D-11	R3531	D-3	R4517	B-14	R5518	E-7	R6044	B-9	R6235	C-10
E-11	C2070	E-14	C3528	D-4	C4539	D-13	C5529	F-7	C6210	A-9	R3040	D-10	R3532	D-3	R4518	B-3	R5519	E-6	R6045	A-9	R6302	D-12
D-11	C3002	D-6	C3529	C-12	C4540	D-13	C5530	F-6	C6211	B-9	R3041	D-10	R3533	D-3	R4519	B-2	R5520	E-7	R6046	C-10	R6305	D-12
E-11	C3003	D-6	C3530	C-5	C4541	E-13	C5531	E-10	C6213	B-7	R3042	F-5	R3534	D-4	R4520	B-14	R5521	E-6	R6047	B-6	R6306	D-12
E-12	C3004	E-7	C3531	C-5	C4542	C-14	C5532	E-10	C6214	B-9	R3043	F-12	R3535	C-12	R4521	B-3	R5522	E-7	R6048	C-10	R6310	D-12
D-13	C3005	E-11	C3532	C-5	C4543	B-3	C5533	F-7	C6221	B-8	R3044	F-12	R3536	C-12	R4524	D-3	R5523	E-7	R6049	C-10	R6311	B-12
E-12	C3006	F-12	C3533	C-5	C4544	D-13	C5534	F-10	C6230	C-7	R3045	F-12	R3537	D-4	R4525	D-3	R5524	E-7	R6051	D-7	R6312	B-12
E-12	C3007	F-12	C3534	D-4	C4545	B-14	C5535	F-10	C6231	C-9	R3046	D-12	R3538	C-13	R4526	B-2	R5525	E-10	R6052	C-10	R6314	B-12
E-3	C3008	F-12	C3535	D-5	C4546	B-14	C5536	F-10	C6301	D-12	R3048	E-11	R3539	C-11	R4527	B-2	R5526	F-6	R6053	C-10	R6315	B-5
F-4	C3011	E-12	C3536	D-5	C4548	B-15	C5537	F-6	C6305	C-4	R3049	E-4	R3540	D-11	R4528	A-13	R5527	F-6	R6055	C-10	R6316	D-12
F-4	C3012	F-12	C3537	C-5	C4550	A-14	C5538	F-6	C6309	D-12	R3051	F-11	R3541	D-11	R4529	A-14	R5530	E-10	R6058	C-7	R6318	B-12
F-5	C3013	E-12	C3538	D-5	C4551	B-15	C5539	F-10	C6311	E-11	R3052	F-11	R3542	D-11	R4530	A-13	R5531	F-7	R6060	B-8	R6319	B-13
F-12	C3014	E-12	C3539	C-11	C4552	B-14	C5540	D-9	C6312	B-11	R3053	F-11	R3543	C-12	R4531	B-14	R5532	F-10	R6061	B-11	R6323	B-4
F-12	C3015	D-12	C3540	C-11	C4553	B-14	C5541	D-9	C6315	B-4	R3055	F-11	R3544	C-4	R4536	D-3	R5533	E-9	R6062	C-6	R6324	B-4
E-12	C3016	D-12	C3541	D-11	C5001	F-13	C5542	E-9	C6318	A-12	R3056	F-11	R3545	D-11	R4537	C-15	R5534	F-10	R6063	C-9	R6325	B-13
F-4	C3017	E-13	C3542	D-11	C5002	F-13	C5543	E-10	C6320	B-4	R3058	D-4	R3546	C-4	R4538	D-13	R5535	F-6	R6064	A-10	R6326	B-4
E-12	C3018	D-12	C3543	D-12	C5003	E-13	C5544	E-9	C6321	B-3	R3059	E-4	R3547	C-4	R4539	C-13	R5536	F-7	R6066	C-9	R6327	B-3
F-12	C3019	D-12	C3544	D-12	C5004	E-13	C5547	E-9	C6322	A-3	R3060	D-7	R3548	C-4	R4540	B-2	R5537	F-7	R6068	C-9	R6329	B-4
D-13	C3020	E-6	C3545	C-12	C5005	E-2	C5548	E-9	C6324	B-4	R3061	D-6	R3549	C-4	R4541	E-13	R5538	F-7	R6070	A-11	R6338	B-4
C-12	C3021	E-12	C3546	D-12	C5006	E-3	C5549	D-9	C6325	E-12	R3062	E-6	R3550	C-4	R4542	D-14	R5539	E-7	R6071	A-11	R6339	B-4
C-12	C3022	E-12	C3547	D-11	C5007	E-3	C5551	D-9	C6326	B-12	R3063	F-5	R3551	C-12	R4543	D-13	R5540	E-9	R6072	C-11	R6340	B-5
D-13	C3029	D-3	C3548	D-11	C5008	E-3	C5552	D-10	C6330	B-13	R3064	E-12	R3552	C-12	R4544	D-13	R5541	E-9	R6073	A-11	R6341	B-4
C-5	C3030	E-3	C3550	D-4	C5009	E-2	C5553	D-10	C6331	B-4	R3065	F-5	R3560	C-11	R4545	D-13	R5542	E-9	R6074	A-11	R6342	A-4
D-11	C3031	F-5	C3551	C-4	C5010	E-2	C5554	E-10	C6334	B-4	R3070	F-4	R3561	C-11	R4546	D-13	R5543	D-9	R6075	A-11	R6344	A-13
D-12	C3032	F-5	C3552	C-4	C5011	F-2	C5555	E-10	C6335	B-13	R3071	F-4	R3562	C-12	R4548	C-13	R5544	E-9	R6076	A-11	R6346	A-13
D-11	C3033	E-4	C3553	C-12	C5012	F-2	C5556	E-10	C6336	A-4	R3072	F-3	R3563	C-11	R4550	B-2	R5545	D-9	R6077	C-11	R6348	B-3
D-11	C3036	F-4	C3556	C-12	C5013	E-14	C5557	E-9	C6338	B-12	R3073	F-4	R3564	B-13	R4553	C-3	R5546	E-9	R6078	C-9	R6401	F-17
D-13	C3037	F-4	C3561	C-11	C5014	F-2	C5558	E-9	C6401	F-17	R3074	F-4	R3565	C-13	R4554	C-15	R5547	E-9	R6079	C-9	R6402	F-17
C-12	C3039	D-11	C3562	B-13	C5015	F-2	C5559	F-9	C6402	F-17	R3075	F-4	R3566	C-13	R4557	B-15	R5548	E-9	R6080	B-11	R6403	F-17
D-14	C3041	E-4	C3563	B-13	C5016	F-14	C5560	E-6	C6403	E-17	R3076	F-4	R3567	C-13	R4558	B-14	R5549	D-10	R6081	B-5	R6404	F-17
D-2	C3042	F-5	C3590	F-11	C5017	F-14	C5561	E-10	**Resistor**		R3077	F-4	R3568	C-13	R4559	B-14	R5550	D-10	R6082	A-9	R6405	F-17
E-3	C3043	F-5	C3591	F-11	C5018	F-14	C5562	F-10			R3078	F-11	R3569	C-11	R4560	B-15	R5551	D-10	R6083	A-8	R6406	F-16
E-13	C3044	D-11	C3592	F-12	C5020	F-14	C5563	F-10	R2001	E-14	R3080	E-11	R3570	C-4	R4561	B-14	R5552	F-9	R6084	C-11	**Resistor Array**	
E-3	C3045	F-12	C4001	C-14	C5021	F-14	C5564	F-10	R2002	E-14	R3081	E-11	R3571	D-12	R4562	B-15	R5553	D-9	R6086	C-6		
E-3	C3047	F-12	C4002	C-14	C5022	F-14	C5565	E-9	R2003	D-14	R3084	F-11	R3572	B-12	R4563	C-14	R5554	E-9	R6087	C-6	RA6001	B-10
E-2	C3048	F-11	C4004	C-3	C5023	F-14	C5566	F-10	R2004	E-14	R3089	F-12	R3573	D-11	R4564	B-13	R5555	F-10	R6088	C-5	RA6003	B-10
F-2	C3049	F-11	C4005	C-2	C5024	F-14	C5567	F-9	R2005	E-15	R3090	F-3	R3574	C-11	R4565	B-14	R5556	E-10	R6091	F-5	RA6004	B-10
F-2	C3050	F-11	C4006	C-2	C5025	F-13	C6001	A-9	R2006	D-14	R3091	F-4	R3575	C-11	R4566	B-15	R5557	E-10	R6092	E-7	RA6005	B-10
F-3	C3052	E-11	C4007	C-2	C5026	F-2	C6002	A-9	R2007	E-15	R3092	F-4	R3590		R4567	A-14	R5563	E-9	R6101	E-14	RA6006	A-10
F-6	C3054	E-11	C4008	C-14	C5027	F-3	C6003	A-10	R2008	E-15	R3097	F-11	R3591	E-11	R4568	B-15	R5564	E-9	R6104	D-9	RA6007	A-10
F-10	C3055	F-12	C4010	C-14	C5028	F-3	C6004	A-10	R2009	E-2	R3098	D-11	R3592	F-11	R4569	D-3	R5565	E-6	R6105	B-8	RA6008	A-10
F-9	C3060	E-6	C4011	C-14	C5029	F-3	C6005	B-11	R2010	D-2	R3107	E-12	R3593	E-12	R4570	D-3	R5599	F-10	R6111	B-9	RA6010	A-10
E-6	C3061	F-12	C4012	D-13	C5030	F-3	C6006	C-6	R2012	E-12	R3113	D-4	R3594	C-12	R4571	D-3	R6001	B-11	R6112	A-9	**Wire**	
E-7	C3062	F-4	C4013	D-14	C5031	F-3	C6007	C-6	R2015	D-14	R3114	E-11	R3595	E-11	R4575	B-13	R6002	A-9	R6113	B-5		
E-10	C3063	D-12	C4014	D-3	C5032	F-3	C6008	B-9	R2016	D-14	R3115	E-11	R3596	E-11	R4576	A-14	R6003	C-6	R6120	A-9	W5001	F-13
D-10	C3065	E-4	C4015	D-14	C5033	F-2	C6009	A-5	R2017	D-2	R3116	E-11	R3597	E-12	R4577	B-14	R6004	C-6	R6121	A-9	W5005	E-4
E-10	C3070	E-11	C4016	C-14	C5034	F-3	C6011	A-6	R2018	D-1	R3131	D-11	R3598	F-11	R4578	A-14	R6006	B-11	R6130	A-11		
E-9	C3071	F-12	C4017	D-14	C5036	E-14	C6013	B-5	R2019	C-15	R3225	E-13	R4001	C-14	R4579	B-14	R6007	B-11	R6131	B-11		
E-9	C3072	E-4	C4018	C-2	C5037	F-14	C6014	A-9	R2020	D-14	R3237	D-4	R4002	C-14	R4580	B-14	R6008	B-7	R6134	B-11		
D-6	C3075	F-11	C4020	D-13	C5038	F-14	C6015	C-9	R2021	D-1	R3244	E-12	R4003	C-2	R4581	B-15	R6010	D-6	R6135	A-11		
C-9	C3083	E-12	C4021	B-2	C5039	F-14	C6016	B-11	R2022	D-15	R3245	E-12	R4004	C-2	R4583	B-2	R6011	B-11	R6138	C-5		
D-12	C3085	E-12	C4023	C-14	C5040	F-13	C6017	D-5	R2040	E-2	R3246	F-5	R4005	C-2	R4584	C-3	R6012	C-11	R6139	C-7		
	C3087	E-12	C4502	C-13	C5041	F-14	C6018	D-5	R2041	E-2	R3247	D-11	R4006	C-2	R5001	D-14	R6013	A-10	R6141	B-6		
	C3208	E-12	C4503	C-14	C5042	E-13	C6019	B-9	R2042	E-1	R3270	D-6	R4007	C-2	R5002	F-14	R6014	A-10	R6144	A-9		
D-14	C3209	E-12	C4504	C-3	C5043	E-3	C6022	A-11	R3001	D-10	R3501	B-12	R4008	C-2	R5003	F-13	R6015	A-10	R6145	A-9		
D-15	C3210	F-5	C4505	B-2	C5501	F-10	C6023	A-11	R3002	E-11	R3502	B-12	R4009	C-14	R5004	F-13	R6016	A-10	R6150	B-11		
C-1	C3211	F-12	C4506	C-3	C5502	F-10	C6024	C-9	R3003	F-12	R3503	C-4	R4012	C-14	R5005	E-3	R6017	A-11	R6151	A-9		
E-14	C3214	D-11	C4507	B-2	C5503	F-10	C6025	B-9	R3004	F-12	R3504	C-12	R4015	C-14	R5006	E-2	R6018	A-11	R6152	A-9		
E-14	C3215	D-11	C4508	B-3	C5504	F-10	C6026	B-9	R3005	F-12	R3505	C-12	R4016	C-14	R5007	E-2	R6019	A-11	R6153	A-9		
E-15	C3501	D-13	C4509	C-14	C5505	F-9	C6027	C-5	R3006	F-12	R3506	C-3	R4018	C-2	R5008	D-14	R6020	A-11	R6154	C-5		
E-14	C3502	D-13	C4510	C-2	C5506	F-9	C6028	C-6	R3009	D-4	R3508	C-3	R4019	D-14	R5009	D-14	R6021	A-9	R6155	C-7		
D-14	C3503	C-11	C4511	C-15	C5507	E-9	C6029	B-9	R3010	D-12	R3509	B-3	R4020	D-14	R5010	D-13	R6022	A-9	R6168	C-9		
D-14	C3504	C-13	C4512	B-3	C5508	F-9	C6030	A-10	R3011	D-13	R3510	C-5	R4021	D-13	R5011	D-14	R6023	A-9	R6169	B-9		
E-2	C3505	D-12	C4513	B-2	C5509	F-9	C6031	C-10	R3012	D-12	R3511	C-12	R4022	D-14	R5012	E-3	R6024	A-10	R6182	C-9		
E-2	C3507	B-4	C4514	B-3	C5510	F-9	C6032	B-9	R3013	E-12	R3512	C-12	R4023	D-14	R5013	F-13	R6025	A-10	R6183	C-9		
D-14	C3508	C-4	C4515	C-15	C5511	F-9	C6033	B-9	R3014	E-12	R3513	C-12	R4024	C-14	R5014	F-13	R6026	A-10	R6185	B-9		
E-15	C3509	B-12	C4516	B-13	C5512	F-9	C6034	C-6	R3015	E-13	R3514	C-12	R4025	C-13	R5016	E-14	R6027	B-5	R6187	C-9		
E-15	C3510	C-12	C4517	B-14	C5513	E-9	C6035	C-11	R3016	D-6	R3515	C-5	R4026	D-13	R5501	F-10	R6028	B-5	R6203	C-6		
E-15	C3511	C-5	C4518	B-13	C5514	F-9	C6037	B-11	R3017	D-13	R3516	C-4	R4027	D-13	R5502	F-10	R6029	B-6	R6205	C-10		

3-33. VTR MAIN [SYSTEM CONTROL & SERVO, SUB SERVO, LUMINANCE/CHROMINANCE & HEAD AMP, TBC, VITC, AUDIO Section] C



LUMI/CHRO & HA SECTION
S-VHS COS EQ
H.A. FREQ RESPONSE
S-VHS VIDEO PB LEVEL
S-VHS MOD LEVEL
SUB SERVO SECTION
YNR
VITC LEVEL
EM CARRIER FREQ (H)
EM CARRIER FREQ (L)
Y-CLAMP
TBC LEVEL
IC2001
IC3001
IC3501
IC3502
VCO
TBC SECTION
AUDIO SECTION
VITC SECTION
SYSTEM CTL & SERVO SECTION
SYSTEM CTL & SERVO SECTION
TO ZOOM SW
(COMPONENT SIDE)
(FOIL SIDE)
JW17A
JW12A
JW16A
JW08A
JW09A
JW11A
JW10A
F
E
D
C
B
A
1
2
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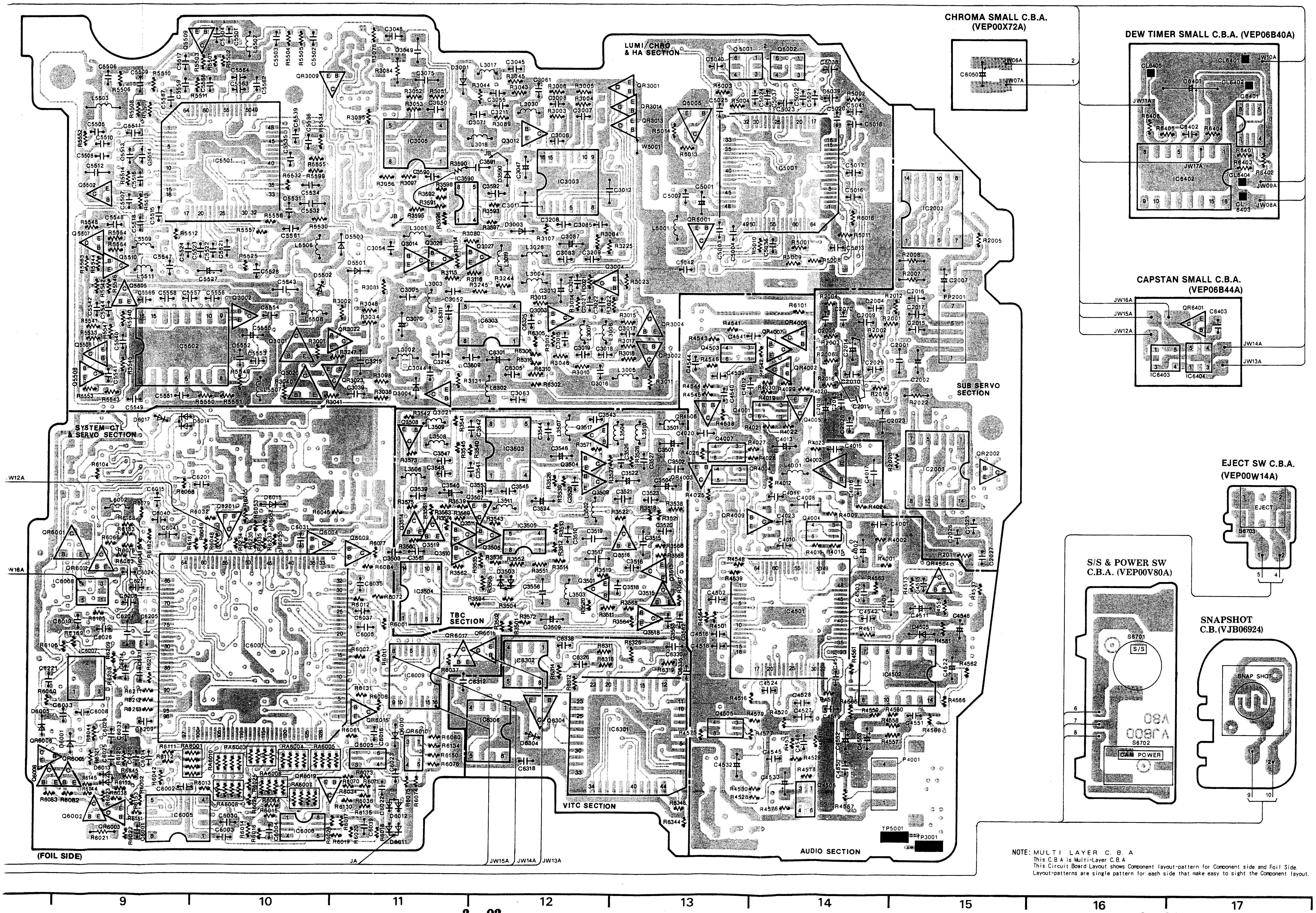
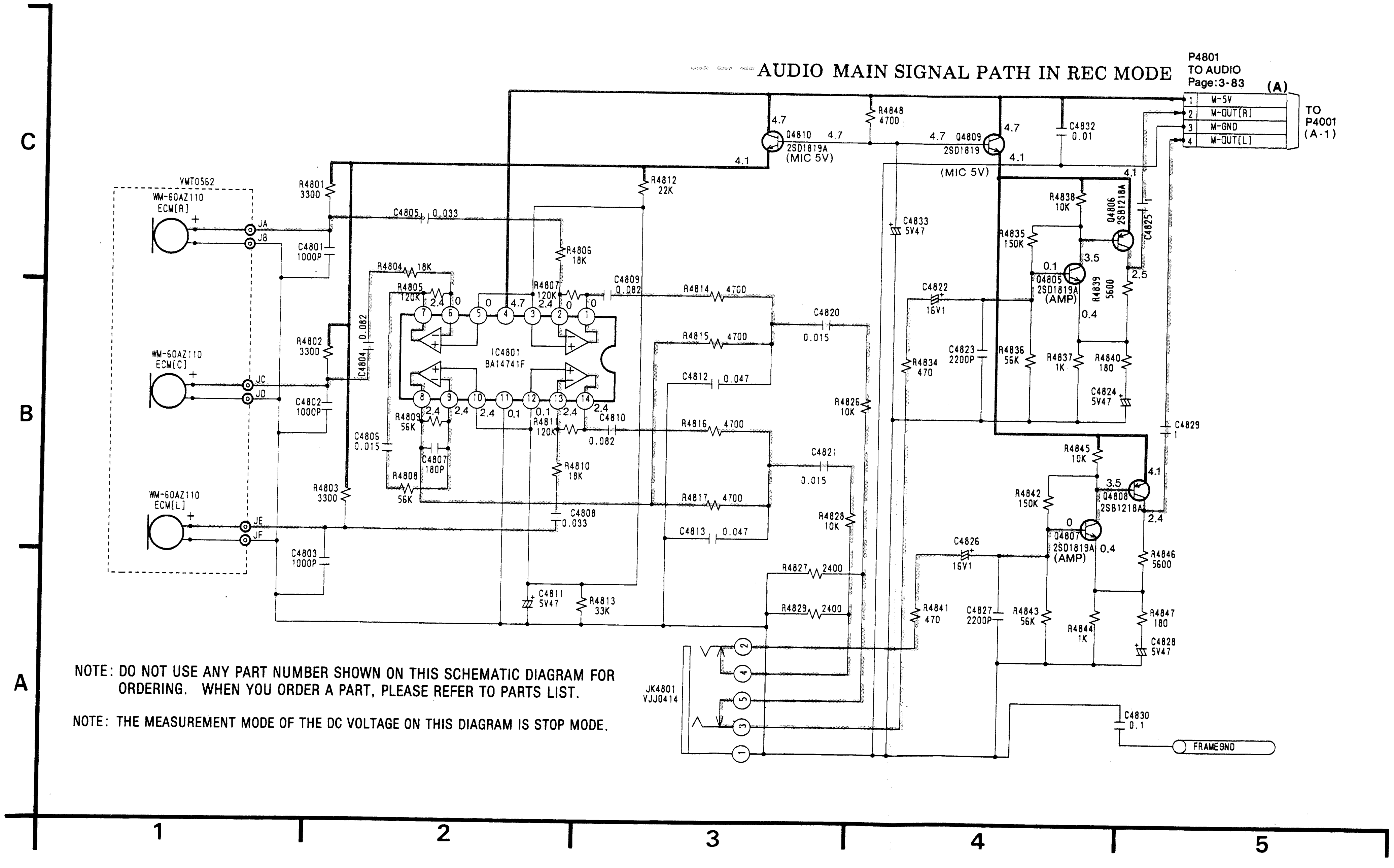
4
5
6
7
8
9

, AUDIO Section] C.B.A. (VEP03B80B)


LUMI/CHRO & HA SECTION
SYSTEM CTL & SERVO SECTION
TBC SECTION
VITC SECTION
AUDIO SECTION
SUB SERVO SECTION
(FOIL SIDE)
CHROMA SMALL C.B.A. (VEP00X72A)
DEW TIMER SMALL C.B.A. (VEP06B40A)
CAPSTAN SMALL C.B.A. (VEP06B44A)
EJECT SW C.B.A. (VEP00W14A)
S/S & POWER SW C.B.A. (VEP00V80A)
SNAPSHOT C.B.(VJB06924)
IC5501
IC5502
IC3005
IC3003
IC6303
IC3603
IC3505
IC3504
IC6302
IC6301
IC6009
IC6306
IC6007
IC6008
IC6005
IC6006
IC4501
IC4502
IC2002
IC2003
IC6402
IC6403
IC6404
EJECT
S6703
S6701
S/S
S6702
CAM POWER
SNAP SHOT
TP5001
TP3001
JW12A
JW16A
JW15A
JW14A
JW13A
JA
9
10
11
12
13
14
15
16
17

NOTE: MULTI LAYER C. B. A
This C.B.A is Multi-Layer C.B.A
This Circuit Board Layout shows Component layout-pattern for Component side and Foil Side.
Layout-patterns are single pattern for each side that make easy to sight the Component layout.

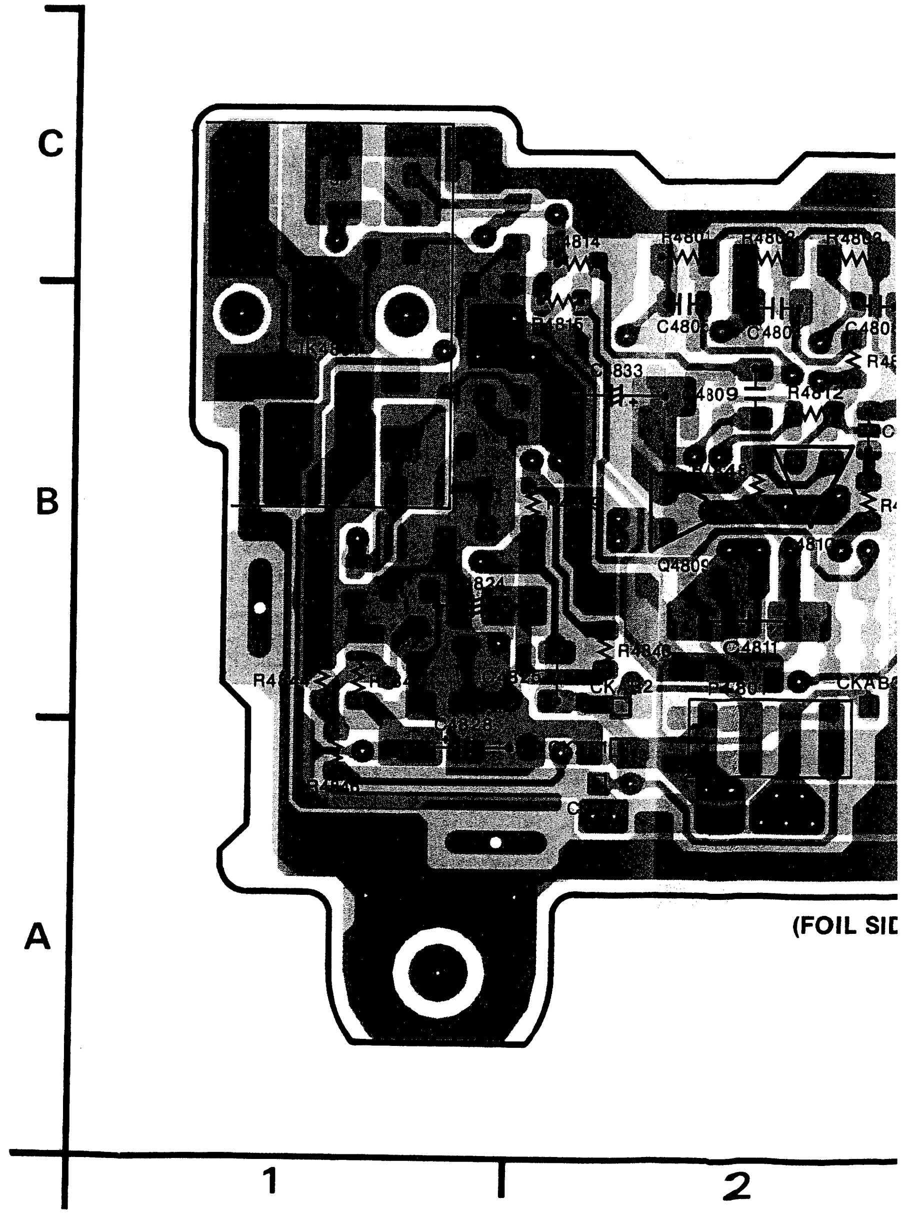
3-34. MIC SCHEMATIC DIAGRAM


AUDIO MAIN SIGNAL PATH IN REC MODE
P4801
TO AUDIO
Page:3-83
(A)
1 M-5V
2 M-OUT[R]
3 M-GND
4 M-OUT[L]
TO
P4001
(A-1)
VMT0562
WM-60AZ110
ECM[R]
WM-60AZ110
ECM[C]
WM-60AZ110
ECM[L]
JA
JB
JC
JD
JE
JF
R4801
3300
R4802
3300
R4803
3300
C4801
1000P
C4802
1000P
C4803
1000P
C4804
0.082
C4805
0.033
C4806
0.015
C4807
180P
C4808
0.033
C4809
0.082
C4810
0.082
C4811
5V47
R4804 18K
R4805 120K
R4806 18K
R4807 120K
R4808 56K
R4809 56K
R4810 18K
R4811 120K
R4812 22K
R4813 33K
IC4801
BA14741F
Q4810
2SD1819A
(MIC 5V)
Q4809
2SD1819
(MIC 5V)
R4848 4700
C4832 0.01
C4833 5V47
R4814 4700
R4815 4700
R4816 4700
R4817 4700
C4812 0.047
C4813 0.047
C4820 0.015
C4821 0.015
R4826 10K
R4828 10K
R4827 2400
R4829 2400
C4822 16V1
C4823 2200P
R4834 470
R4835 150K
R4836 56K
R4837 1K
R4838 10K
R4839 5600
R4840 180
C4824 5V47
C4825
Q4805
2SD1819A
(AMP)
Q4806
2SB1218A
C4829 1
R4845 10K
R4842 150K
Q4807
2SD1819A
(AMP)
Q4808
2SB1218A
R4846 5600
C4826 16V1
R4841 470
C4827 2200P
R4843 56K
R4844 1K
R4847 180
C4828 5V47
C4830 0.1
FRAMEGND
JK4801
VJJ0414
C
B
A
1
2
3
4
5

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

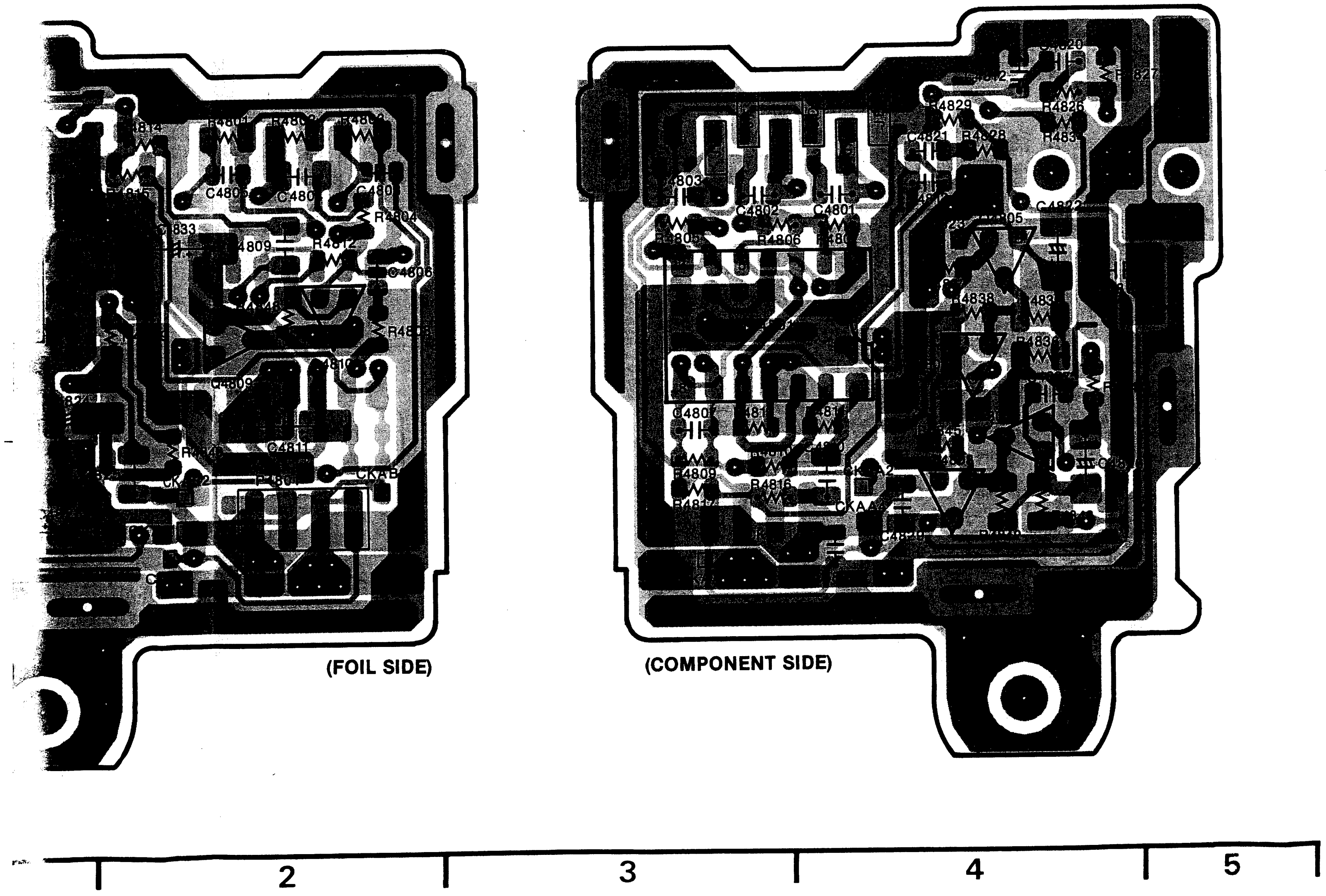
3-35. MIC C.B.A. (VEK7455)


(FOIL SID
C
B
A
1
2

Back Page:
VTR MAIN C.B.A. Section

MIC C.B.A.	
Transistor	
Q4805	B-4
Q4806	B-4
Q4807	B-4
Q4808	B-4
Q4809	B-2
Q4810	B-2
Integrated Circuit	
IC4801	B-3
Connector	
JK4801	B-1
P4801	B-2

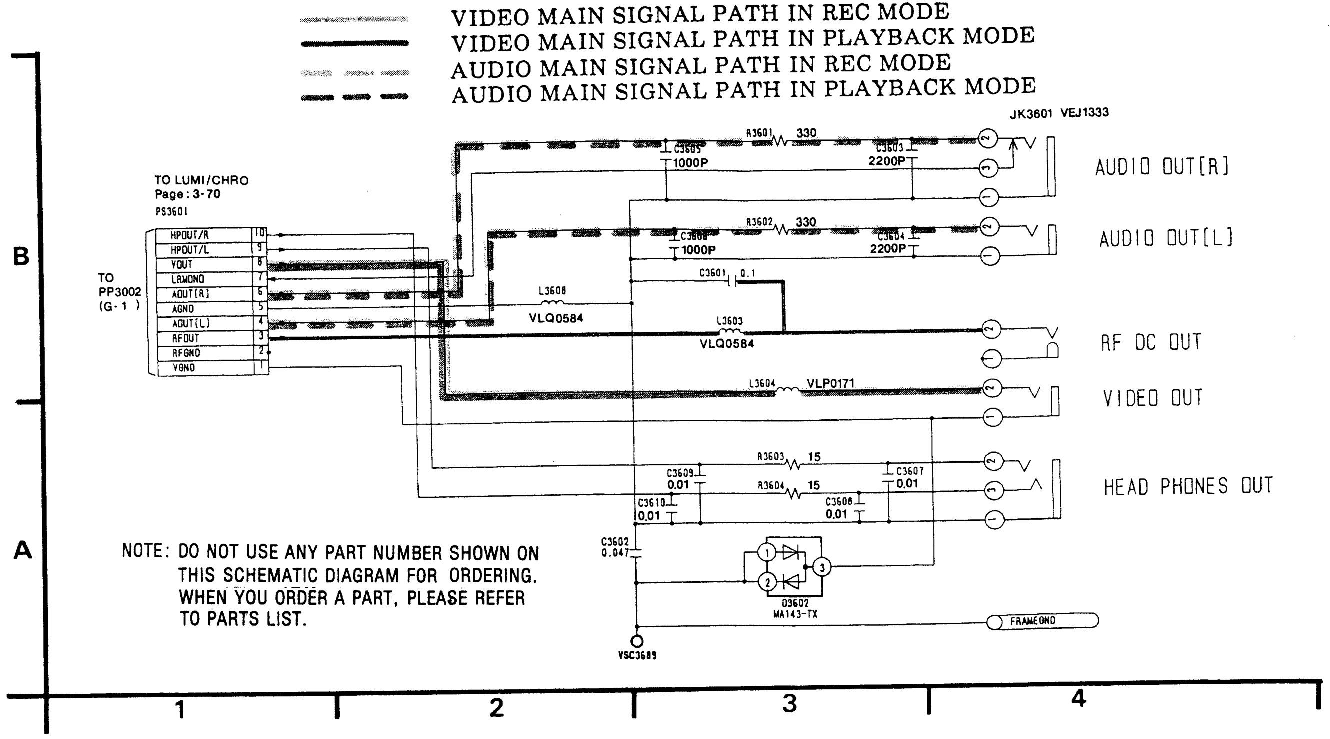
ADDRESS INFORMATION


C4806
C4807
R4804
R4809
R4812
C4809
C4811
CKAB
R4806
C4802
C4801
R4829
R4828
C4821
R4826
R4838
R4809
R4816
CKAA
2
3
4
5

(FOIL SIDE)

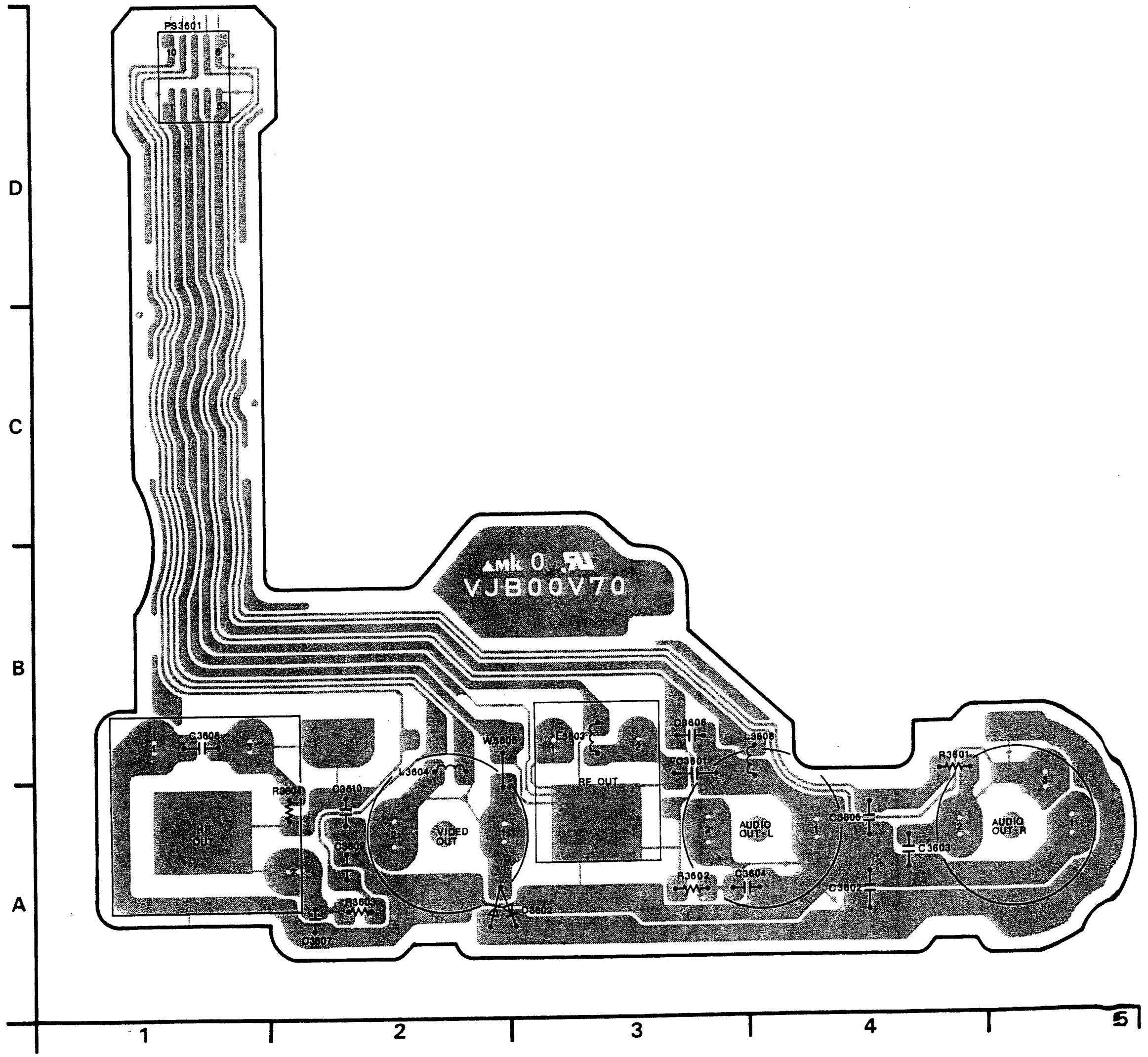
(COMPONENT SIDE)

3-36. AV JACK SCHEMATIC DIAGRAM

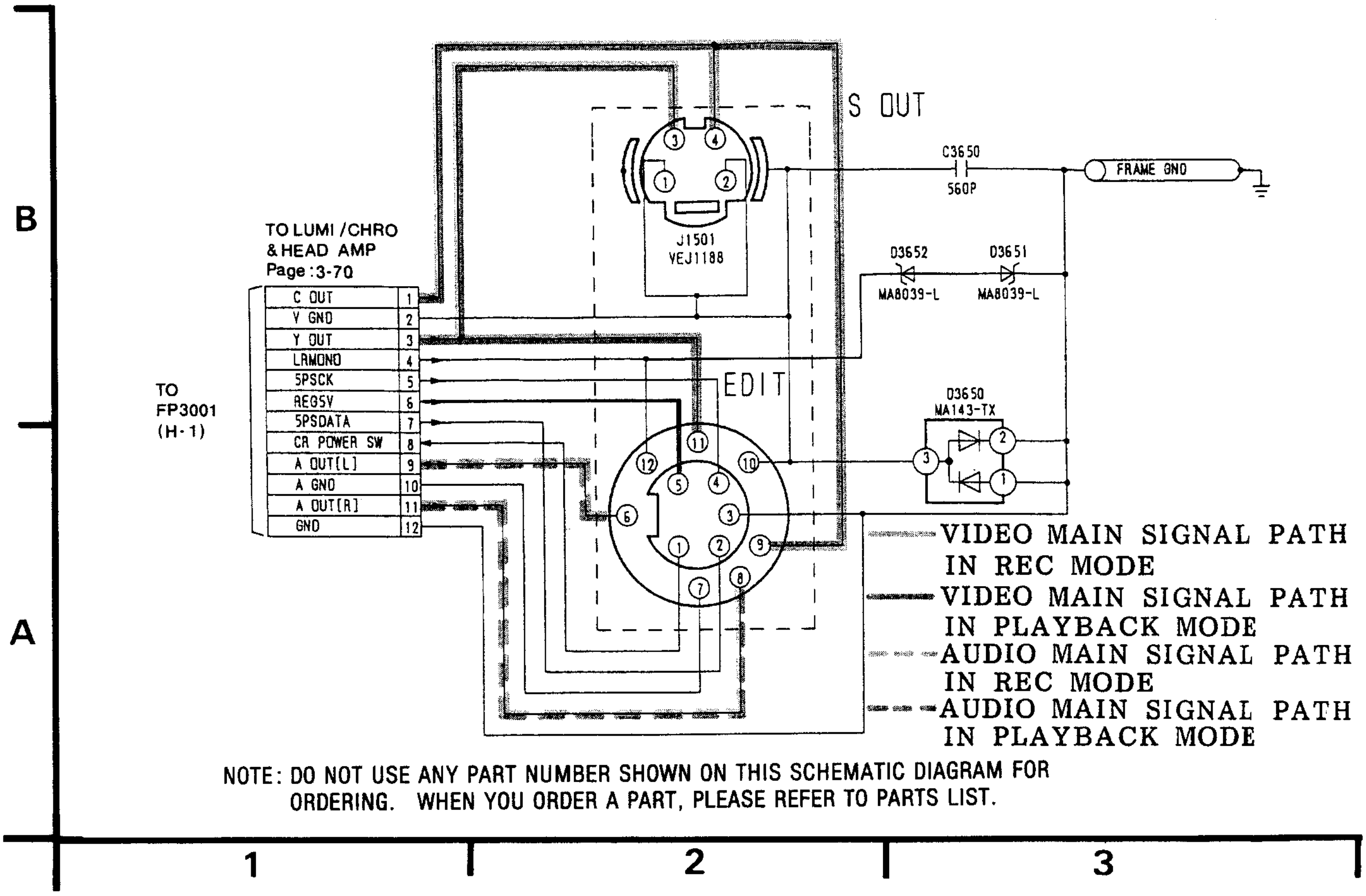

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
JK3601 VEJ1333
TO LUMI/CHRO
Page: 3-70
PS3601
TO
PP3002
(G-1)
HPOUT/R 10
HPOUT/L 9
VOUT 8
LRMONO 7
AOUT(R) 6
AGND 5
AOUT(L) 4
RFOUT 3
RFGND 2
VGND 1
R3601 330
C3605 1000P
C3603 2200P
AUDIO OUT[R]
R3602 330
C3606 1000P
C3604 2200P
AUDIO OUT[L]
C3601 0.1
L3608
VLQ0584
L3603
VLQ0584
RF DC OUT
L3604 VLP0171
VIDEO OUT
R3603 15
R3604 15
C3609 0.01
C3607 0.01
C3610 0.01
C3608 0.01
HEAD PHONES OUT
C3602 0.047
D3602
MA143-TX
FRAMEGND
VSC3689
B
A
1
2
3
4

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-37. AV JACK C.B.A. (VEK7463)

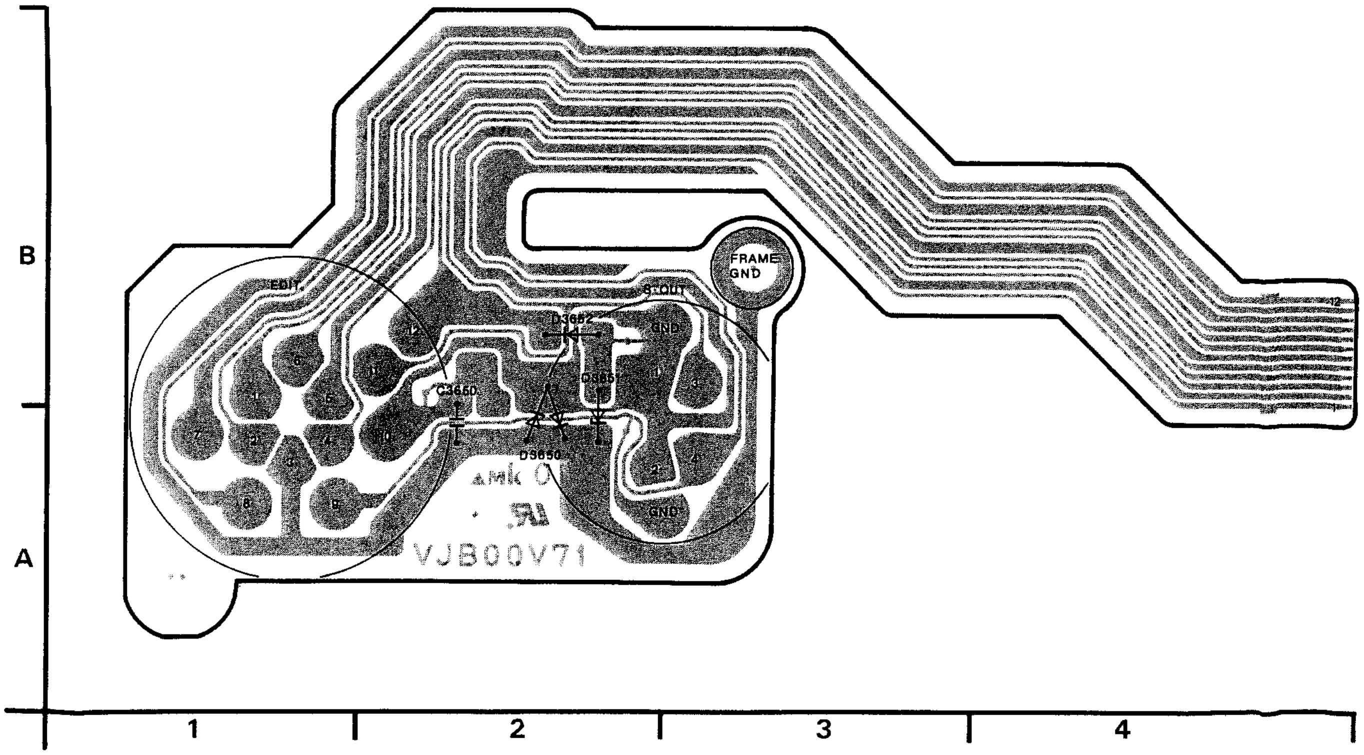

PS3601
VJB00V70
VIDEO OUT
RF OUT
AUDIO OUT L
AUDIO OUT R
R3601
R3602
C3603
C3604
C3602
L3603
L3604
D3602
D
C
B
A
1
2
3
4
5

3-38. S-JACK SCHEMATIC DIAGRAM

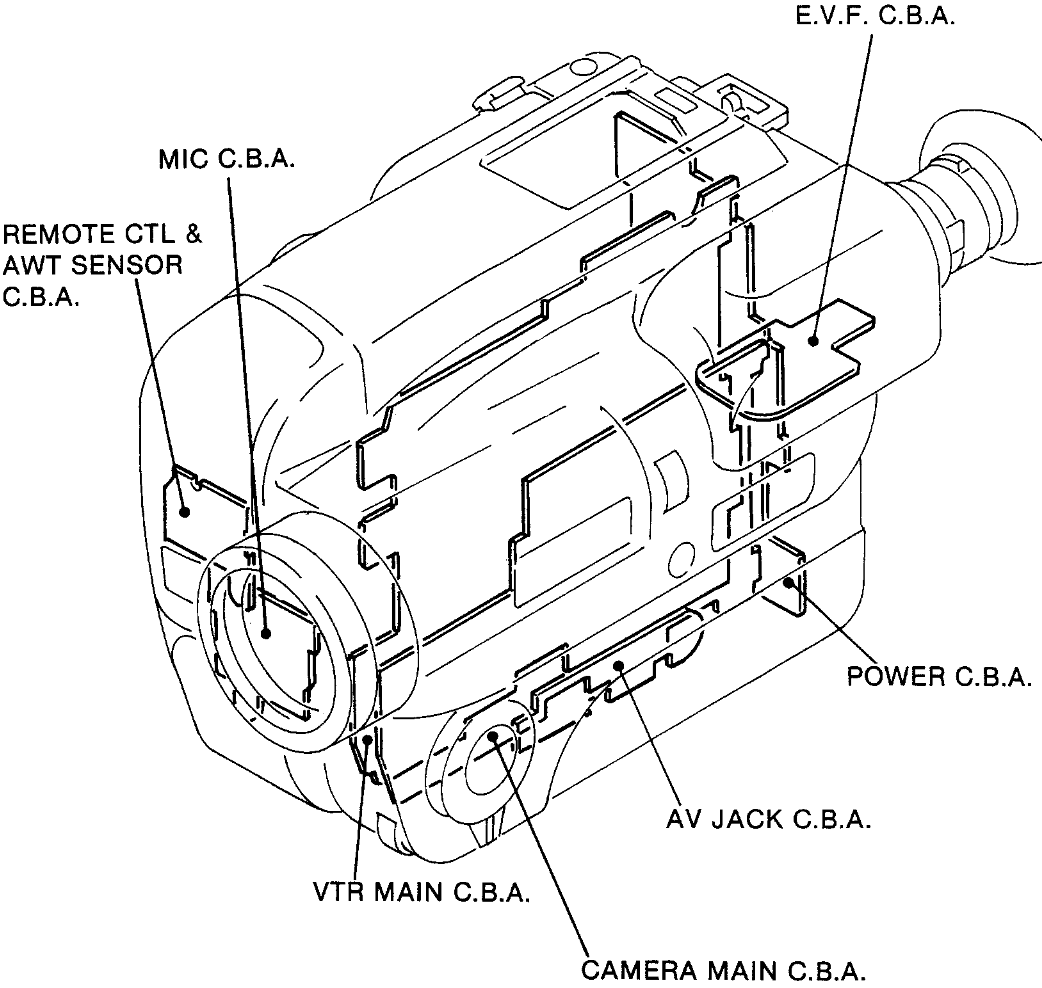

B
A
1
2
3
TO LUMI /CHRO
& HEAD AMP
Page :3-70
TO
FP3001
(H·1)
C OUT 1
Y GND 2
Y OUT 3
LRMONO 4
5PSCK 5
REGSV 6
5PSDATA 7
CR POWER SW 8
A OUT[L] 9
A GND 10
A OUT[R] 11
GND 12
S OUT
J1501
VEJ1188
EDIT
C3650
560P
FRAME GND
D3652
MA8039-L
D3651
MA8039-L
D3650
MA143-TX
VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

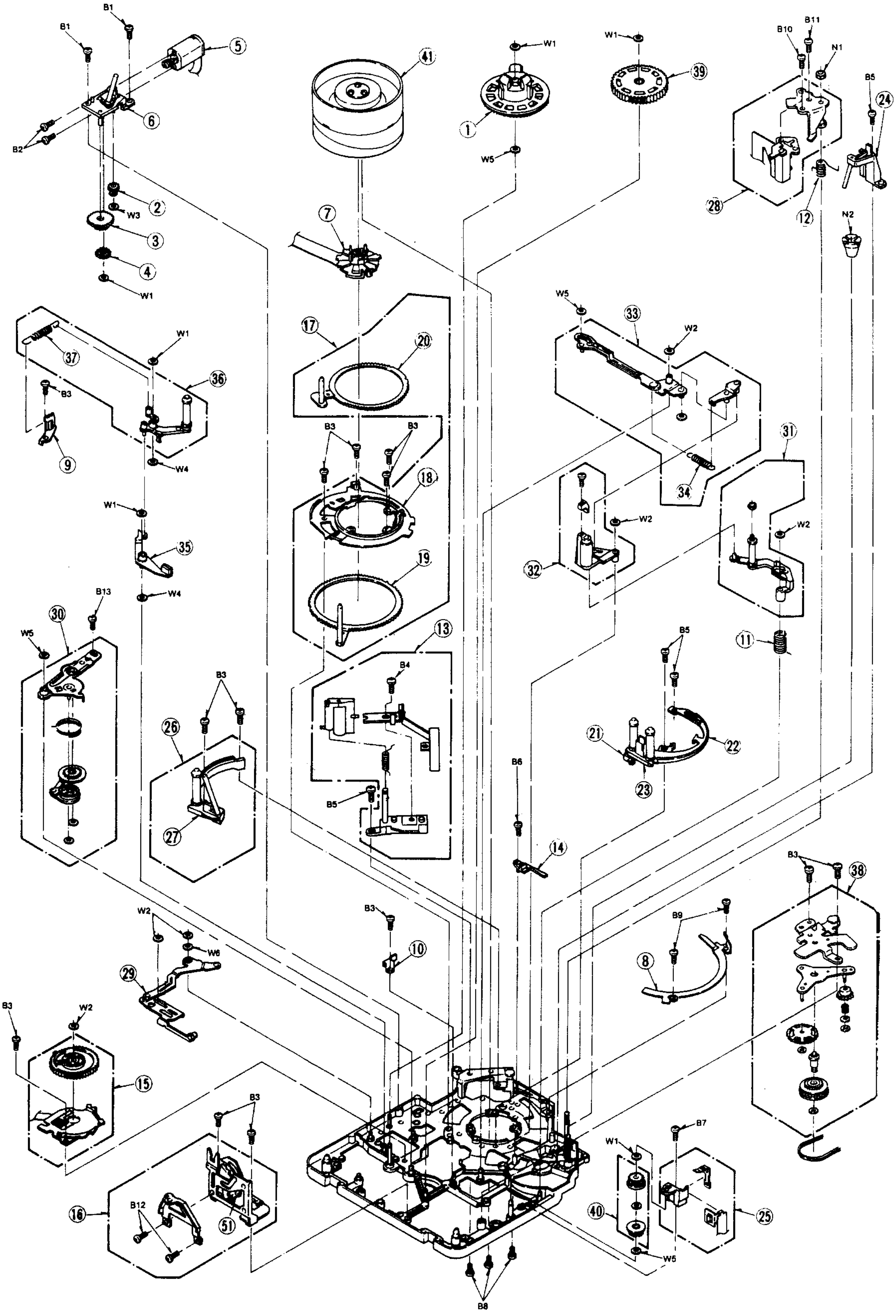
3-39. S-JACK C.B.A. (VEK7464)


B
A
1
2
3
4
EDIT
S-OUT
FRAME GND
D3652
D3651
C3650
D3650
GND
GND
VJB00V71
12
1

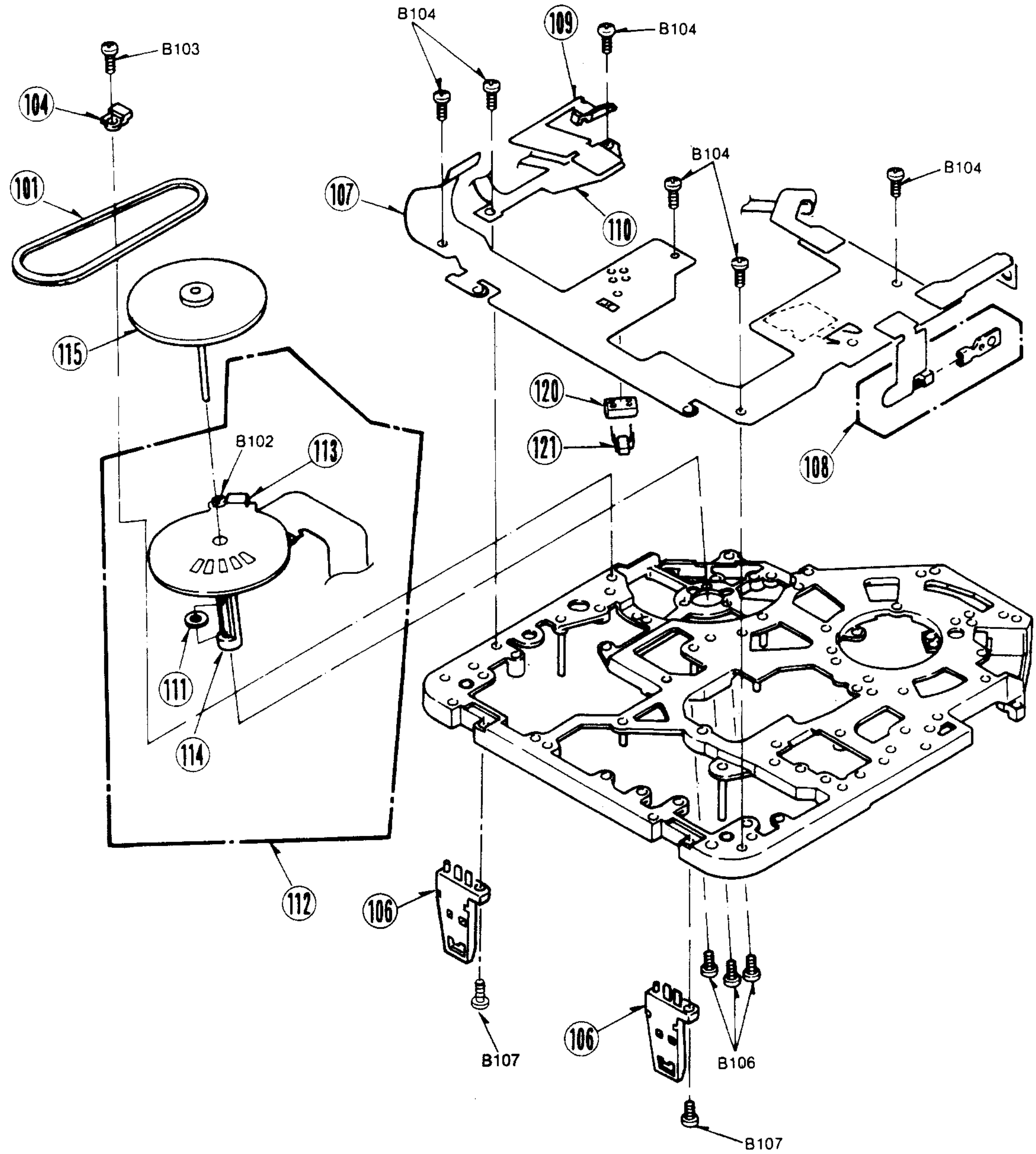
3-40. CIRCUIT BOARD LAYOUT


E.V.F. C.B.A.
MIC C.B.A.
REMOTE CTL & AWT SENSOR C.B.A.
POWER C.B.A.
AV JACK C.B.A.
VTR MAIN C.B.A.
CAMERA MAIN C.B.A.

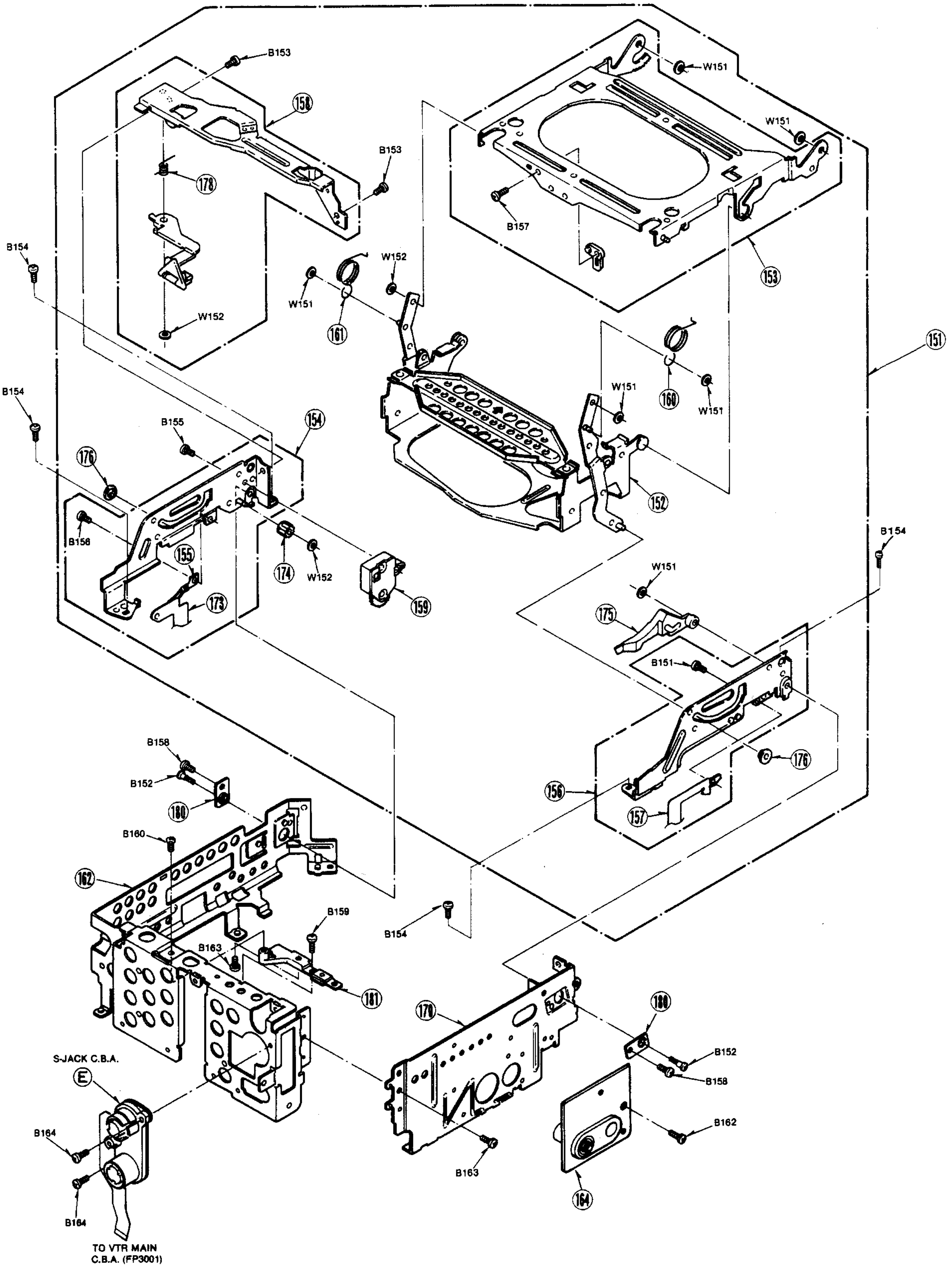
SECTION 4
EXPLODED VIEWS & PARTS LIST
4-1. EXPLODED VIEWS ❶ VTR MECHANISM SECTION (1)


B1
B1
⑤
㊶
W1
①
W1
㊴
B10
B11
N1
B5
㉔
⑥
B2
W5
㉘
⑫
N2
②
W3
③
④
W1
⑦
W5
㉝
W2
⑰
⑳
㊲
W1
㊱
B3
⑨
W4
B3
B3
⑱
㉞
㉛
W1
㉟
W2
㉜
W2
⑲
B13
㉚
W5
W4
⑬
⑪
B4
B5
B3
㉖
㉑
㉒
㉓
㉗
B5
B6
⑭
B3
㊳
W2
B3
W6
⑩
B9
⑧
㉙
B3
W2
⑮
B3
B7
W1
B12
(51)
⑯
㊵
㉕
W5
B8

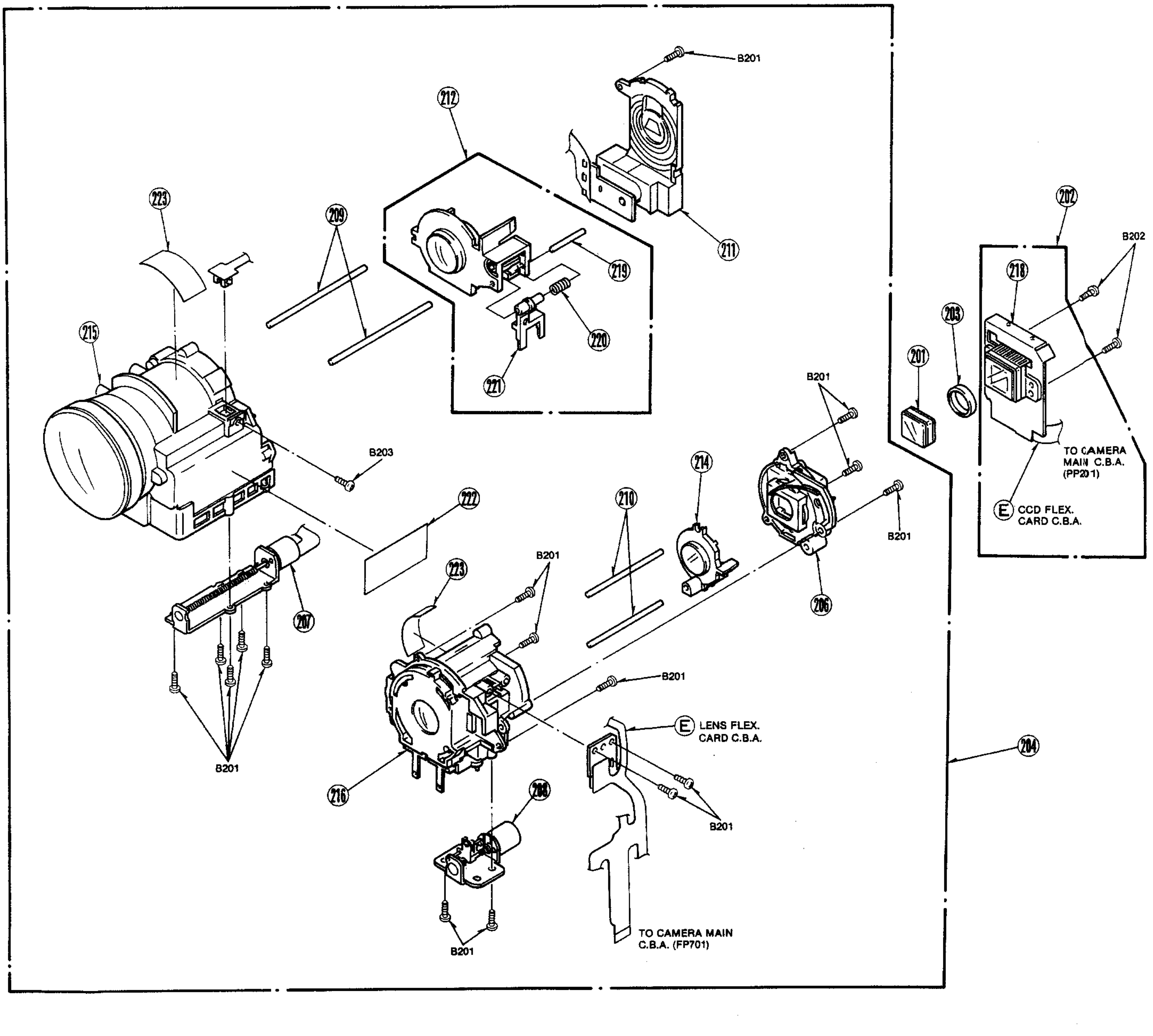
❷ VTR MECHANISM SECTION (2)


B103
104
101
115
B102
113
111
114
112
B104
109
B104
107
110
B104
B104
120
121
108
106
B107
106
B106
B107

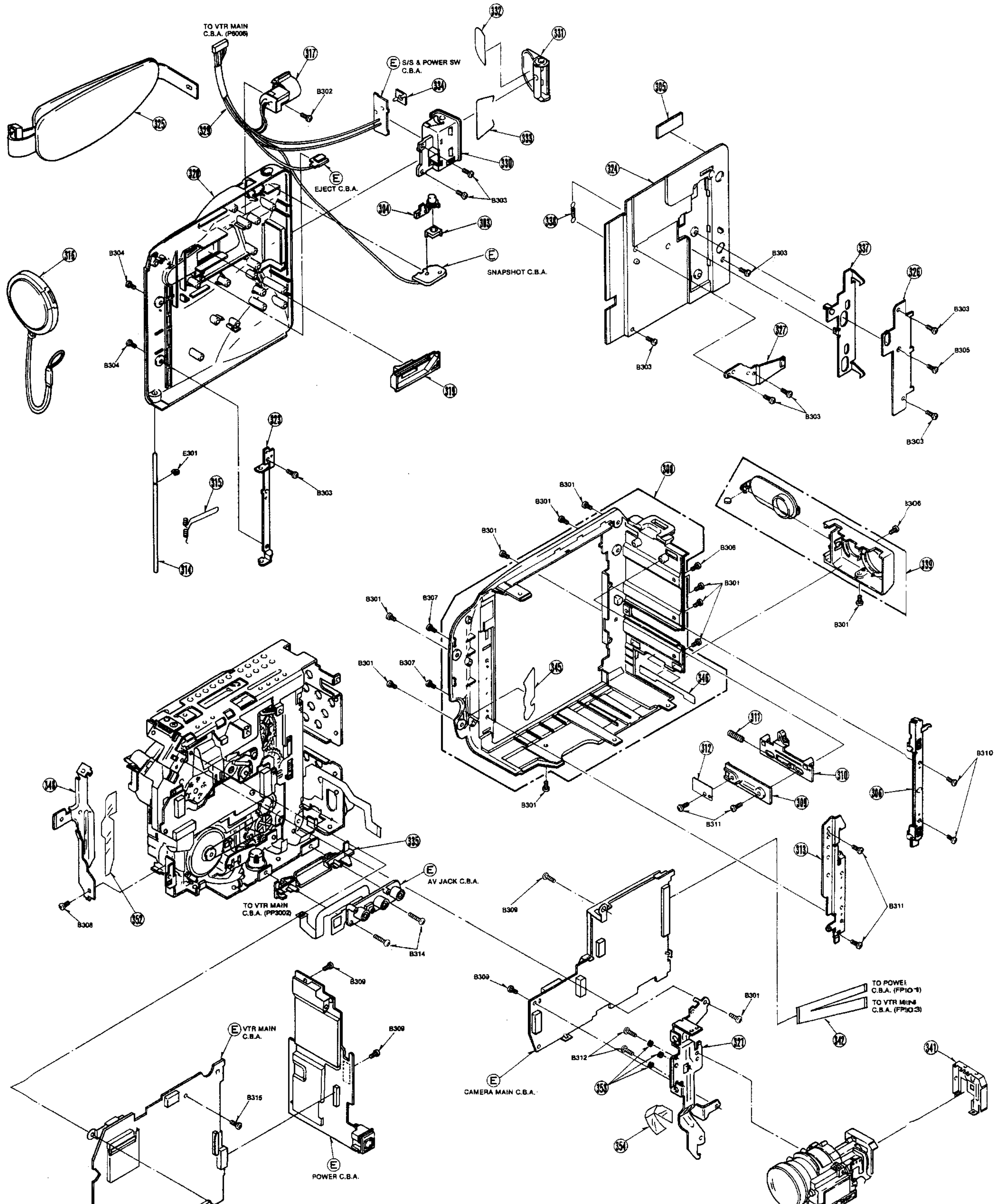
❸ VTR MECHANISM SECTION (3)


B153
(158)
B153
(178)
W151
W151
B157
(153)
B154
W152
W151
W152
(161)
(151)
B154
W151
(160)
W151
B155
(154)
(176)
B156
(155)
(173)
(174)
W152
(159)
(152)
B154
W151
(175)
B151
(176)
(156)
(157)
B158
B152
(180)
B160
(162)
B159
B163
(181)
B154
(170)
(180)
B152
B158
B162
B163
(164)
S-JACK C.B.A.
Ⓔ
B164
B164
TO VTR MAIN C.B.A. (FP3001)

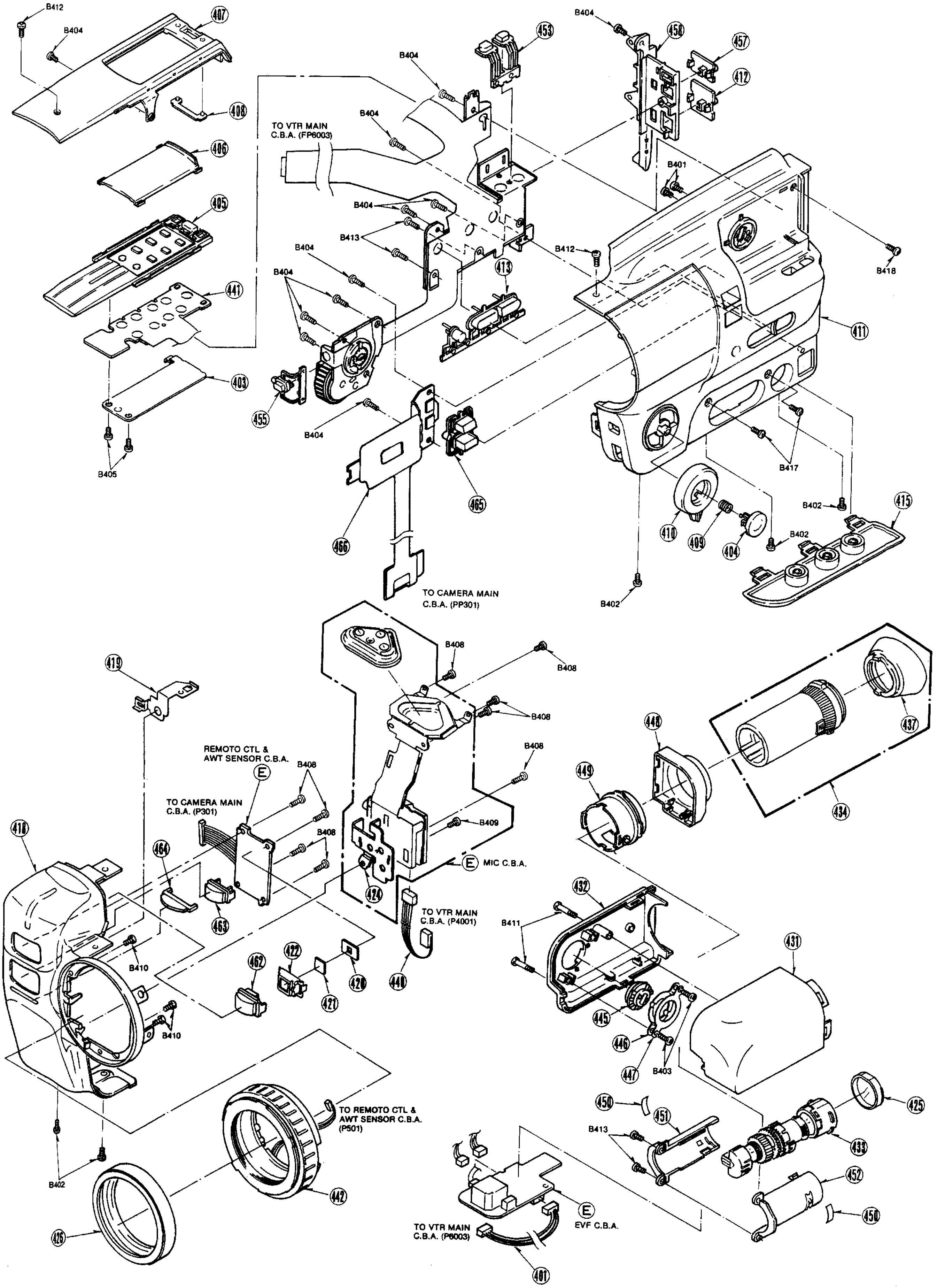
❹ CAMERA LENS SECTION


B201
212
211
223
209
219
220
221
215
202
B202
218
203
201
B201
214
B203
222
210
TO CAMERA MAIN C.B.A. (PP201)
E CCD FLEX. CARD C.B.A.
B201
206
223
B201
207
B201
B201
E LENS FLEX. CARD C.B.A.
204
216
208
B201
B201
TO CAMERA MAIN C.B.A. (FP701)

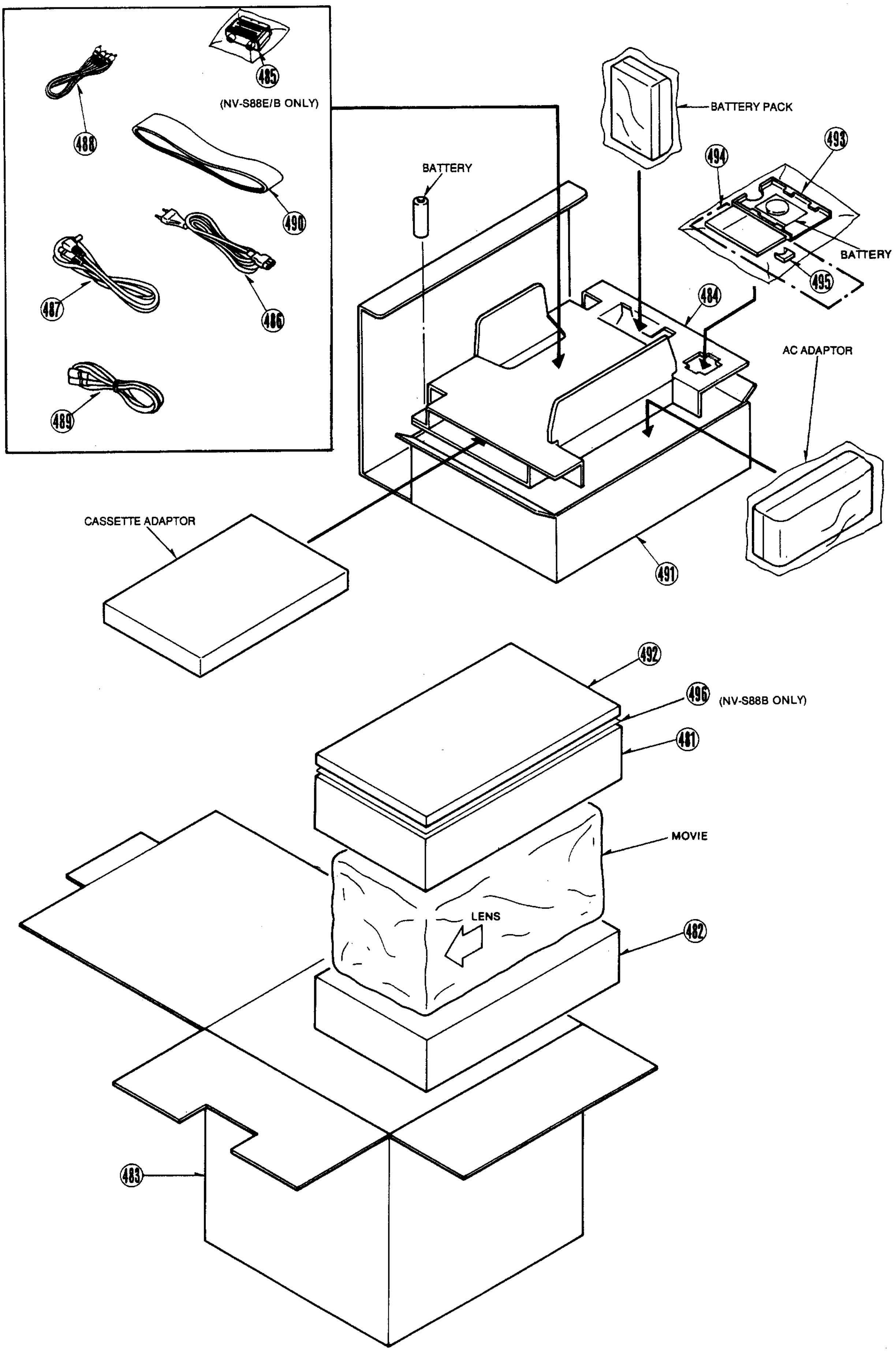
❺ FRAME & CASING PARTS SECTION (1)


332
331
TO VTR MAIN C.B.A. (P6006)
317
Ⓔ S/S & POWER SW C.B.A.
334
B302
325
329
333
330
Ⓔ EJECT C.B.A.
B303
305
324
320
304
303
336
Ⓔ SNAPSHOT C.B.A.
B303
337
326
316
B304
B303
B305
B304
327
B303
B303
B303
319
323
E301
B303
315
314
308
B301
B301
B301
B306
B306
B301
339
B301
B307
B301
B307
B301
345
346
311
312
310
309
B311
B301
B310
306
348
335
Ⓔ AV JACK C.B.A.
TO VTR MAIN C.B.A. (PP3002)
B308
352
B314
B309
313
B311
B309
B309
B301
TO POWER C.B.A. (FP1001)
TO VTR MAIN C.B.A. (FP1003)
Ⓔ VTR MAIN C.B.A.
B309
321
342
B315
B312
353
341
Ⓔ CAMERA MAIN C.B.A.
354
Ⓔ POWER C.B.A.
B313

❻ FRAME & CASING PARTS SECTION (2)


B412
B404
407
408
406
405
441
403
B405
TO VTR MAIN
C.B.A. (FP6003)
B404
B404
B404
B413
B404
B404
455
B404
466
465
TO CAMERA MAIN
C.B.A. (PP301)
413
453
B404
458
457
412
B401
B412
B418
411
B417
B402
415
B402
410
409
404
B402
419
B408
B408
B408
B408
REMOTO CTL &
AWT SENSOR C.B.A.
E
B408
TO CAMERA MAIN
C.B.A. (P301)
B408
418
464
463
B410
B410
B402
426
442
TO REMOTO CTL &
AWT SENSOR C.B.A.
(P501)
462
422
421
420
424
440
TO VTR MAIN
C.B.A. (P4001)
B409
E MIC C.B.A.
448
449
434
437
432
B411
431
445
446
447
B403
450
451
B413
425
433
452
450
E
EVF C.B.A.
TO VTR MAIN
C.B.A. (P6003)
401

❼ PACKING PARTS & ACCESSORIES SECTION


485
(NV-S88E/B ONLY)
488
490
487
486
489
BATTERY PACK
BATTERY
493
494
BATTERY
495
484
AC ADAPTOR
CASSETTE ADAPTOR
491
492
496 (NV-S88B ONLY)
481
MOVIE
LENS
482
483

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VDR0226	REEL BASE (S)	1	
2(1)		VDG0821	BRAKE GEAR (A)	1	
3(1)		VDG0822	BRAKE GEAR (B)	1	
4(1)		VDG0823	BRAKE GEAR (C)	1	
5(1)		VEM0417	LOADING MOTOR (1) U.	1	
6(1)		VXA4527	MOTOR HOLDER U.	1	
7(1)		VEK7073	RT CONNECTOR U.	1	
8(1)		VMA8502	T-RING SLIDER	1	
9(1)		VMA8505	TEN-REG.SPRING HOOK	1	
10(1)		VMA8532	PENDULUM ARM HOLDER	1	
11(1)		VMB2362	T3 ARM SPRING	1	
12(1)		VMB2365	AC HEAD SPRING	1	
13(1)		VXA5306	S-GUIDE STAND U.	1	
14(1)		VMD1851	T-BOAT GUIDE	1	
15(1)		VSR0096	MODE SWITCH U.	1	
16(1)		VXA4515	LOCK BASE U.	1	
17(1)		VXA4517	LOADING RING U.	1	
18(1)		VMD1824	RING GUIDE	1	
19(1)		VXA4518	T-RING U.	1	
20(1)		VXA4519	S-RING U.	1	
21(1)		VEK5549	LED U.	1	
22(1)		VMD1828	T-RAIL	1	
23(1)		VXA5260	T-BOAT U.	1	
24(1)		VXA4528	T4 POST U.	1	
25(1)		VXA4997	T-REEL SENSOR U.	1	
26(1)		VXA5153	S-RAIL U.	1	
27(1)		VXA5124	S-BOAT U.	1	
28(1)		VXA5201	AC HEAD U.	1	
29(1)		VXL2393	EJECT LEVER (1) U.	1	
30(1)		VXL2401	SWING ARM U.	1	
31(1)		VXL2431	T3 ARM (A) U.	1	
32(1)		VXL2139	PINCH ARM U.	1	
33(1)		VXL2140	PINCH DRIVE ARM U.	1	
34(1)		VMB2363	PINCH PRESSURE SPRING	1	
35(1)		VXL2144	PAD ARM U.	1	
36(1)		VXL2145	TEN-REG. ARM U.	1	
37(1)		VMB2364	TEN-REG. SPRING	1	
38(1)		VXL2399	IDLER U.	1	
39(1)		VXP1308	RELAY GEAR U.	1	
40(1)		VXP1313	T-DRIVE GEAR U.	1	
41(1)		VEG1096	CYLINDER U.	1	
51(1)		VMB2369	LOCK SPRING	1	
B1(1)		XQN14+B25FY	SCREW	2	
B2(1)		XQN14+A14	SCREW	2	
B3(1)		XQN14+B2	SCREW	13	
B4(1)		XQN14+BJ35	SCREW	1	
B5(1)		XQN14+B25FY	SCREW	3	
B6(1)		XQN14+B25FY	SCREW	1	
B7(1)		XQN14+B25FY	SCREW	1	
B8(1)		XQN14+C35R	SCREW	3	
B9(1)		VHD0711	SCREW	2	
B10(1)		VHD0700	SCREW	1	
B11(1)		VHD0699	SCREW	1	
B12(1)		XQN14+CF25	SCREW	2	
B13(1)		VHD0707	SCREW	1	
N1(1)		VHN0047	NUT	1	
N2(1)		VHN0175	NUT	1	
W1(1)		VMX2027	WASHER	6	
W2(1)		VMX2026	WASHER	7	
W3(1)		VMX2051	WASHER	1	
W4(1)		XWGV12Z3G	WASHER	2	
W5(1)		XWGV12Y3G	WASHER	3	
W6(1)		VMX2026	WASHER	1	
101(2)		VDV0232	CAPSTAN BELT	1	
104(2)		VMD1846	CAPSTAN STOPPER	1	
106(2)		VSH0055	REC SAFETY SW U.	2	
107(2)		VWJ0878	MECH.FLEXIBLE CARD	1	
108(2)		VXA4511	PHOTO (L) U.	1	
109(2)		VXA4514	PHOTO (R) U.	1	
110(2)		VXA4997	T-REEL SENSOR U.	1	
111(2)		VDB1129	LOWER BEARING	1	
112(2)		VEK7314	STATOR U.	1	
113(2)		VBK0059	MR HEAD	1	
114(2)		VXD0134	HOUSING U.	1	
115(2)		VXP1303	ROTOR U.	1	
120(2)		VMD1842	REEL SENSOR MOUNT	1	
121(2)		ON2170-LM	REEL SENSOR	1	
B102(2)		VHD0593	SCREW	1	
B103(2)		XQN14+B2	SCREW	1	
B104(2)		XQN14+C2R	SCREW	5	
B106(2)		XQN14+A3	SCREW	3	
B107(2)		XQN14+CF4	SCREW	2	
151(3)		VXA5198	GARAGE U.	1	
152(3)		VXA5199	HOLDER U.	1	
153(3)		VXA4863	GARAGE (1) U.	1	
154(3)		VXA4510	STAND (L) U.	1	
155(3)		VXA4511	PHOTO (L) U.	1	
156(3)		VXA4513	STAND (R) U.	1	
157(3)		VXA4514	PHOTO (R) U.	1	
158(3)		VXL2222	TAPE GUIDE U.	1	
159(3)		VXP1472	DUMPER	1	
160(3)		VMB2367	UP SPRING (R)	1	
161(3)		VMB2368	UP SPRING (L)	1	
162(3)		VMP4104	MAIN FRAME	1	
164(3)		VYQ1065	TRIPOD FRAME U.	1	
170(3)		VMP4103	BOTTOM FRAME	1	
173(3)		VWJ0548	PHOTO FLEX.CARD	1	
174(3)		VDG0827	DUMPER RELAY GEAR	1	
175(3)		VML2580	TAPE OPEN LEVER	1	
176(3)		VDP1406	ARM HOLDER	2	
178(3)		VMB2498	TAPE GUIDE SPRING	1	
180(3)		VGQ3137	INSLULATION PIECE (A)	2	
181(3)		VGQ3295	INSULATION PIECE (B)	1	
B151(3)		VHD0776	SCREW	1	
B152(3)		VHD0713	SCREW	2	
B153(3)		XQN14+B2	SCREW	2	
B154(3)		VHD0838	SCREW	4	
B155(3)		XQN16+AJ8	SCREW	1	
B156(3)		XQN14+CM2	SCREW	1	
B157(3)		XQS14+A25FZ	SCREW	1	
B158(3)		XQN2+C2	SCREW	2	
B159(3)		XQN2+CF3	SCREW	1	
B160(3)		XQN2+AJ4	SCREW	1	
B162(3)		XQS2+C4	SCREW	1	
B163(3)		XQN2+CF5	SCREW	2	
B164(3)		XQN2+C5	SCREW	2	
W151(3)		VMX1042	WASHER	6	
W152(3)		VMX1061	WASHER	3	
201(4)		VDL0421	CRYSTAL FILTER	1	
202(4)		VEK9000	CCD UNIT	1	
203(4)		VMX2376	CCD CUSHION	1	
204(4)		VXW0194	LENS U.	1	
206(4)		VDW0319	CRYSTAL MOUNT PLATE	1	
207(4)		VEM0472	ZOOM MOTOR U.	1	
208(4)		VEM0451	FOCUS MOTOR U.	1	
209(4)		VMS5735	Z GUIDE POLE	2	
210(4)		VMS5736	F GUIDE POLE	2	
211(4)		VXL2445	IRIS U.	1	
212(4)		VXP1554	2ND. MOVING FRAME U.	1	
214(4)		VXP1555	4TH. MOVING FRAME U.	1	
215(4)		VXQ0440	MAIN FRAME U.	1	
216(4)		VXQ0441	3RD. LENS FRAME U.	1	
218(4)		VSC3771	CCD SHIELD CASE	1	
219(4)		VMS5734	RACK G.P	1	
220(4)		VMB2796	2ND. SPRING	1	
221(4)		VML2911	2ND. RACK	1	
222(4)		VMA9343	PLUMBIC SHEET(A)	1	
223(4)		VMA9344	PLUMBIC SHEET(B)	2	
B201(4)		XQN16+CJ5	SCREW	16	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
B202(4)		XQN16+CJ6	SCREW	2	
B203(4)		XQN16+CJ5	SCREW	1	
303(5)		VMG0763	RUBBER SW	1	
304(5)		VGU6399	SNAPSHOT BUTTON	1	
305(5)		VGQ5800	SNAPSHOT BUTTON SPACER	1	
306(5)		VYK4655	CASSETTE COVER LOCK ANGLE U	1	
308(5)		VYK5883	SIDE CASE (L)(1) U.	1	
309(5)		VGQ3139	BATT. LOCK HOLD PLATE	1	
310(5)		VGQ3760	BATT. LOCK LEVER	1	
311(5)		VMB2483	BATT. LOCK SPRING	1	
312(5)		VMZ2215	BATT. BLIND BARRIER	1	
313(5)		VMP3909	HINGE(A)	1	
314(5)		VMS4762	SHAFT	1	
315(5)		VMB2669	SPRING	1	
316(5)		VYF2157	HOOD CAP U.	1	
317(5)		VXU1258	ZOOM BUTTON U.	1	
319(5)		VGU6428	LOCK RELEACE (EJECT) KNOB	1	
320(5)		VYP5599	CASSETTE COVER (1) UNIT	1	
321(5)		VMP4669	CAMERA FRAME	1	
323(5)		VMP3910	HINGE(B)	1	
324(5)		VGQ3281	CASSETTE COVER HOLDER	1	
325(5)		VYC0618	GRIP BELT U.	1	
326(5)		VMP3912	CASSETTE LOCK ANGLE HOLDER	1	
327(5)		VMC0992	CASSETTE DOWN SPRING	1	
329(5)		VEE9317	GRIP CONNECTOR CABLE	1	
330(5)		VGQ3731	S/S BUTTON HOLDER	1	
331(5)		VXU1274	S/S BUTTON (1) U.	1	
332(5)		VGQ3588	S/S BUTTON SHEET	1	
333(5)		VMB2594	S/S BUTTON COVER SPRING	1	
334(5)		VMG0833	RUBBER SW	1	
335(5)		VGQ3767	AV JACK HOLDER	1	
337(5)		VYK4656	CASSETTE LOCK ANGLE (B) U.	1	
338(5)		VMB2384	CASSETTE LOCK SPRING	1	
339(5)		VYK5878	S-JACK PIECE U.	1	
341(5)		VSC3844	CCD SHIELD CASE (UPPER)	1	
342(5)		VWJ0921	CAMERA FLEX. CARD	1	
345(5)		VGQ3315	HOOKING BLINDER SHEET	1	
346(5)		VMZ2220	BATT. BLINDER BARRIER (B)	1	
348(5)		VMD2363	REINFORCEMENT ANGLE	1	
352(5)		VGQ3759	ANGLE BARRIER	1	
353(5)		VMG0952	RUBBER SPACER	3	
354(5)		VGQ3878	CAMERA FRAME BARRIER	1	
B301(5)		VHD0729	SCREW	11	
B302(5)		XQN2+CJ8FZ	SCREW	1	
B303(5)		XQN2+CJ6FZ	SCREW	9	
B304(5)		XQN2+C4FZ	SCREW	2	
B305(5)		XQS2+CJ6FZ	SCREW	1	
B306(5)		XQN2+CF55FZ	SCREW	2	
B307(5)		XQS2+C3FZ	SCREW	2	
B308(5)		XQN2+CF3	SCREW	1	
B309(5)		XQN2+CF5	SCREW	4	
B310(5)		XQN2+AJ4	SCREW	2	
B311(5)		XTB2+4G	SCREW	4	
B312(5)		VMS5604	SCREW	2	
B313(5)		VHD0875	SCREW	1	
B314(5)		XQN2+CF14	SCREW	2	
B315(5)		XQN2+CF6	SCREW	1	
E301(5)		XUC2FP	E-RING	1	
401(6)		VEE9023	EVF CONNECTOR CABLE	1	
403(6)		VMP4169	OPERATION HOLD PLATE	1	
404(6)		VGU6879	MODE BUTTON	1	
405(6)		VYK5869	VTR OPERATION PANEL U.	1	
406(6)		VGQ3495	CURSOR	1	
407(6)		VKM3881	TOP CASE	1	
408(6)		VGL0575	PANEL LIGHT	1	
409(6)		VMB2531	MODE BUTTON SPRING	1	
410(6)		VGU6868	MODE SELECT LEVER	1	
411(6)		VYK6441	SIDE CASE (R)(1) U.	1	NV-S88E/B
411(6)		VYK6713	SIDE CASE (R)(1) U.	1	NV-S880EN/ENH
412(6)		VGU6605	Hi-Fi SELECT KNOB	1	
413(6)		VGU6862	CAMERA OPERATION BUTTON	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
415(6)		VKF2246	AV JACK COVER	1	
418(6)		VYK6446	FRONT CASE (1) U.	1	
419(6)		VGQ3756	FRONT EARTH PLATE	1	
420(6)		VGQ3306	IR PLATE SPACER	1	
421(6)		VDL0397	IR CUT FILTER	1	
422(6)		VGQ3310	IR PLATE HOLDER	1	
424(6)		VMP4341	FRONT FIXING ANGLE (A)	1	
425(6)		VKW1806	PROTECTION PANEL	1	
426(6)		VYF2155	LENS HOOD U.	1	
431(6)		VKM4110	EVF CASE (R)	1	NV-S88E/B
431(6)		VKM4190	EVF CASE (R)	1	NV-S880EN/ENH
432(6)		VKM3877	EVF CASE (L)	1	
433(6)		M01KUA07WB03	CRT	1	
434(6)		VYQ1036	SLIDE CASE U.	1	
437(6)		VMG0631	EYE CAP	1	
440(6)		VEE9368	MIC CONNECTOR CABLE	1	
441(6)		ESU39024	OPERATION U.	1	
442(6)		VXP1540	FOCUS RING U.	1	
445(6)		VGQ3122	ROTARY PIECE	1	
446(6)		VMC0975	ROTATION LOCK SPRING	1	
447(6)		VGQ3621	EVF ROTARY BARRIER	1	
448(6)		VGQ3497	EVF CASE HOLDER	1	
449(6)		VGQ3493	HOLDER GUIDE	1	
450(6)		VMC0978	SLIDE LOCK SPRING	2	
451(6)		VGQ3500	CRT HOLDER (L)	1	
452(6)		VGQ3501	CRT HOLDER (R)	1	
453(6)		VGU6866	TRACKING BUTTON	1	
455(6)		VGU6864	FOCUS BUTTON	1	
457(6)		VGU6608	AGS KNOB	1	
458(6)		VGQ3494	BLIND PIECE	1	
462(6)		VKW2003	AWT SENSOR WINDOW	1	
463(6)		VKW2004	REMOTO CTL SENSOR WINDOW	1	
464(6)		VGL0599	TALLEY PANEL LIGHT	1	
465(6)		VGU6875	DIGITAL BUTTON	1	
466(6)		VEK7485	DIGITAL OPERATION	1	
B401(6)		VHD0584	SCREW	2	
B402(6)		VHD0729	SCREW	5	
B403(6)		VHD0793	SCREW	2	
B404(6)		XTB2+5G	SCREW	1	1
B405(6)		XQS2+CQ3	SCREW	2	
B408(6)		XQN16+CJ5	SCREW	9	
B409(6)		XQN2+C2	SCREW	1	
B410(6)		XQN2+CJ6	SCREW	3	
B411(6)		XTN2+16GFZ	SCREW	2	
B412(6)		XQN2+CF55FZ	SCREW	2	
B413(6)		XTB2+8G	SCREW	4	
B415(6)		XQN16+CJ5FZ	SCREW	4	
B417(6)		XQN2+CJ6FZ	SCREW	2	
B418(6)		XQN2+CF10FZ	SCREW	1	
481(7)		VPN3995	CUSHION (UPPER)	1	
482(7)		VPN3996	CUSHION (LOWER)	1	
483(7)		VPG7950	PACKING	1	NV-S88E
483(7)		VPG7952	PACKING	1	NV-S88B
483(7)		VPG8063	PACKING	1	NV-S880EN
483(7)		VPG8288	PACKING	1	NV-S880ENH
484(7)		VPN4134	ACCESSORIES PAD	1	
485(7)		VFA0151	21 PIN ADAPTOR	1	NV-S88E/B
486(7)		VJA0664	AC CABLE	1	<!>NV-S88E/EN
486(7)		VJA0940	AC CABLE	1	<!>NV-S88B
486(7)		VJA0733	AC CABLE	1	<!>NV-S880ENH
487(7)		VJA0941	DC INPUT CABLE	1	NV-S88E/B
487(7)		VJA0769	DC INPUT CABLE	1	NV-S880EN/ENH
488(7)		VJA0788	AV OUTPUT CABLE	1	
489(7)		VJA0658	S-VIDEO CABLE	1	
490(7)		VFC1757	SHOULDER STRAP	1	
491(7)		VPN4065	ACCESSORIES BOX	1	
492(7)		VQT6070	OPERATING INSTRUCTIONS	1	<!>NV-S88E
			(ENGLISH/GERMAN/FRENCH		
			/ITALIAN)		
492(7)		VQT6071	OPERATING INSTRUCTIONS	1	<!>NV-S88E
			(SPANISH/DUTCH/SWEDISH		
			/DANISH)		
492(7)		VQT6072	OPERATING INSTRUCTIONS	1	<!>NV-S88B

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			(ENGLISH)		
492(7)		VQT6165	OPERATING INSTRUCTIONS	1	<!>NV-S880EN/ENH
			(ENGLISH)		
493(7)		VGQ6893	REMOTO CONTROLLER HOLDER	1	
494(7)		VEQ1697	REMOTO CONTROLLER	1	
495(7)		VJF1262	BATTERY COVER	1	
496(7)		VQC2451	EASY OPERATING	1	NV-S88B
			INSTRUCTIONS		
			**** JIG & TOOLS *****		
			------ ELECTRICAL -------		
		VFM8180HUPF	VHS-C ALIGMENT TAPE	1	PAL
		VFK0374	COLOUR TEMP.CONV.FILRTER	1	(C12) OR VFK0713
		VFK0375	COLOUR TEMP.CONV.FILRTER	1	(C2) OR VFK0716
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM31	ROM	1	FOR EVR FIXTURE
		VFK0766A	EVR CONNECTION CABLE 5P	1	FOR EVR FIXTURE
		VFK0734W	MEASUREMENT CABLE 24P	1	FOR EVR FIXTURE
		VFK0498	EXTENTION CABLE 4P	1	
		VFK0638	EXTENTION CABLE 10P	1	
		VFK0670	FLAT CABLE 18P	2	
		VFK0728	FLAT CABLE 9P	1	
		VFK0729	FLAT CABLE 6P	1	
		VFK0841	EXTENTION CABLE 28P	1	
		VFK0888	FLAT CABLE 10P	1	
		VFKW0F0139	ATTACHMENT CONNECTOR 7P	1	
		VFKW0F0140	ATTACHMENT CONNECTOR 7P	1	
		VFKW0F0143	ATTACHMENT CONNECTOR 16P	1	
		VFKW0F0136	ATTACHMENT CONNECTOR 16P	1	
		VFKW0F0145	ATTACHMENT CONNECTOR 26P	1	
		VFKW0F0138	ATTACHMENT CONNECTOR 26P	1	
		VFKW0F0147	ATTACHMENT CONNECTOR 28P	1	
		VFKW0T0001	ATTACHMENT CONNECTOR 28P	1	
		VFK0F0001	COMMON CABLE	4	
			---- MECHANICAL ------		
		VFK0743	H-POSITION ADJUSTMENT	1	
		VFK0824	ASTERISK TYPE RENCH	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0329	POST ADJ. SCREW DRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLTONE GREASE	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP23272A	CAMERA MAIN C.B.A.	1	(RTL)
			(Page:4-11)		
		VEP22123D	CCD FLEX. CARD C.B.A.	1	(RTL)
			(Page:4-14)		
		VEK7506	LENS FLEX. C.B.A.	1	(RTL)
			(Page:4-14)		
		VEP23271A	AWT SENSOR C.B.A.	1	(RTL)
			(Page:4-14)		
		VEP28086C	E.V.F. C.B.A.	1	(RTL)
			(Page:4-14)		
		VEK7455	MIC UNIT C.B.A.	1	
			(Page:4-15)		
		VEP03B80B	VTR MAIN C.B.A.	1	(RTL)
			(Page:4-15)		
		VEP06B44A	VTR SUB 1 C.B.A.	1	(RTL) INCLUDED IN
			(Page:4-22)		VTR MAIN C.B.A.
		VEP06B40A	VTR SUB 2 C.B.A.	1	(RTL) INCLUDED IN
			(Page:4-22)		VTR MAIN C.B.A.
		VEP01638B	POWER C.B.A.	1	(RTL)
			(Page:4-22)		
		VEK7463	AV JACK C.B.A.	1	(RTL)
			(Page:4-24)		
		VEP00W14A	EJECT C.B.A.	1	(RTL)
			(Page:4-24)		
		VEP00V80A	S/S C.B.A.	1	(RTL)
			(Page:4-24)		
		VEK7464	S-JACK C.B.A.	1	(RTL)
			(Page:4-24)		
		VJB06924	SNAP SHOT C.B.A.	1	(RTL)
	■	VEP23272A	CAMERA MAIN C.B.A.		(RTL)
C201		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C202		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C203		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C204		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C205		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C206		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C207		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C208		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C209		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C210		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C211		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C213-18		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	6	
C219		ECST1AX156Z	T.CAPACITOR 10V 15U	1	
C220		ECST1CY475Z	E.CAPACITOR 16V 47U	1	
C221		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C222		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C223		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C224,25		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	2	
C226		ECST1DX475Z	T.CAPACITOR 20V 4.7U	1	
C227		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C228		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C229		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C230		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C231		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C232		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C234		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C236		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C237		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C239		ECST0GY226Z	T.CAPACITOR 4V 22U	1	
C241		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C242,43		ECUX1H080CCV	C.CAPACITOR CH 50V 8P	2	
C244		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C245		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C247		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C248		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C253		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C254		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C256		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C258		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C259,60		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C261		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C262		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C263		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C264		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C265		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C266-68		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	3	
C269		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C271		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C290		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C301,02		ECST0JY106Z	E.CAPACITOR 6.3V 10U	2	
C303		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C304		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C305		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C306		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C307-09		ECST0JY106Z	E.CAPACITOR 6.3V 10U	3	
C310		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C311		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C312		ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C313		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C314		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C316		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C317		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C318-20		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C321		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C322		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C323		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C324		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C325		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C326		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C327,28		ECST0JY106Z	E.CAPACITOR 6.3V 10U	2	
C329,30		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C331		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C332		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C334		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C335		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C336,37		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C338,39		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C340-42		ECST0JY106Z	E.CAPACITOR 6.3V 10U	3	
C343		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C344		ECST1DX475Z	T.CAPACITOR 20V 4.7U	1	
C345,46		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C347		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C348,49		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C352		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C358		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C701		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C702		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C703		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C704		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C705		ECEV1CA101	E.CAPACITOR 16V 100U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C706		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C707		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C708		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C709		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C710		ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C711,12		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C713		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D202,03		1SS355	DIODE	2	
D205-10		1SS355	DIODE	6	
D212		1SS355	DIODE	1	
D301-05		MA728	DIODE	5	
D306		1SS355	DIODE	1	
FL201		VLF1056	FILTER	1	
FL202,03		VLF1114M470	FILTER	2	
FL301		ELB4A524	FILTER	1	
FP301		VJS3320D045	CONNECTOR (FEMALE) 45P	1	
FP701		VJS3320D018	CONNECTOR (FEMALE) 18P	1	
IC201		VEFB42A	IC	1	
IC202		MN5225	IC	1	
IC203		NN2038FAQ	IC	1	
IC204		TC7SH04FU	IC	1	
IC205		TC7SHU04FU	IC	1	
IC206		SC7S08F	IC	1	
IC207		XC62AP2802MR	IC	1	
IC208,09		TC7SH08FU	IC	2	
IC210		TC7SH08F	IC	1	
IC212		TC7SH04FU	IC	1	
IC301		MN65761T	IC	1	
IC302		CF45814PN	IC	1	
IC303		TC9074F	IC	1	
IC304		MB88345PFBND	IC	1	
IC305		ZA4035	IC	1	
IC306		L7A1362	IC	1	
IC307		MN1866405M5S	IC	1	
IC308		MN67332	IC	1	
IC309		MN65703T	IC	1	
IC310		TC7S32F	IC	1	
IC311		TA75W01FU	IC	1	
IC312,13		TC7W74FU	IC	2	
IC314		X25080S-27C7	IC	1	
IC315		BU4094BCFV	IC	1	
IC316		SC7S08F	IC	1	
IC318		TC7W74FU	IC	1	
IC701,02		TB6512AF	IC	2	
IC703		TC4S584F	IC	1	
IC704		LM324DB	IC	1	
L201,02		VLP0155	COIL	2	
L203		VLQ0426J680	COIL 68UH	1	
L204		VLP0154	INDUCTOR	1	
L205		ELJFC150JB	COIL 15UH	1	
L206		VLP0146	INDUCTOR	1	
L207-09		ELJFC150JB	COIL 15UH	3	
L210,11		VLP0146	INDUCTOR	2	
L212		ELJFC150JB	COIL 15UH	1	
L213		VLQ0426J220	COIL 22UH	1	
L214		ELJFC100JB	COIL 10UH	1	
L215		VLQ0426J1R5	COIL	1	
L216		VLP0172	COIL	1	
L217-19		ELJFC150JB	COIL 15UH	3	
L223		ELJFC150JB	COIL 15UH	1	
L301,02		ELJPC6R8KB	COIL 6.8UH	2	
L303		VLQ0464	COIL	1	
L304		ELJFC150JB	COIL 15UH	1	
L305		ELJPC6R8KB	COIL 6.8UH	1	
L306,07		ELJPA150KB	COIL 15UH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L308,09		ELJPC6R8KB	COIL 6.8UH	2	
L310,11		VLP0146	INDUCTOR	2	
L312		ELJFC150JB	COIL 15UH	1	
L313		VLQ0426J101	COIL 100UH	1	
L314		VLP0304	COIL	1	
L315,16		ELJPC6R8KB	COIL 6.8UH	2	
L317		VLQ0426J101	COIL 100UH	1	
L318		ELJPC6R8KB	COIL 6.8UH	1	
L319-21		ELJFC150JB	COIL 15UH	3	
L322-24		VLP0146	INDUCTOR	3	
L325		ELJFC150JB	COIL 15UH	1	
L326,27		VLP0146	INDUCTOR	2	
L328		ELJPC6R8KB	COIL 6.8UH	1	
L329-34		VLP0146	INDUCTOR	6	
L335		VLP0304	COIL	1	
L336		VLP0305	COIL	1	
L338		VLP0304	COIL	1	
L339		VLP0171	INDUCTOR	1	
L340		VLQ0464	COIL	1	
L341		VLP0171	INDUCTOR	1	
L701-04		ELJPC6R8KB	COIL 6.8UH	4	
P301		VJP3125D013	CONNECTOR (MALE) 13P	1	
PP201		VJP3358A012	CONNECTOR (MALE) 12P	1	
PP301		VJP2962A010	CONNECTOR (MALE) 10P	1	
PP302		VJP2962A024	CONNECTOR (MALE) 24P	1	
Q201		2SD2216	TRANSISTOR	1	
Q202		2SB1462	TRANSISTOR	1	
Q203		2SD2216	TRANSISTOR	1	
Q205-07		UPA674T	TRANSISTOR	3	
Q301		2SB1462	TRANSISTOR	1	
Q302,03		2SA1790	TRANSISTOR	2	
Q304		2SC4627	TRANSISTOR	1	
Q305		XP1501	TRANSISTOR-RESISTOR	1	
Q306		2SC4627	TRANSISTOR	1	
Q307-09		XP4115	TRANSISTOR-RESISTOR	3	
Q310		2SD2216	TRANSISTOR	1	
Q701		2SD601A	TRANSISTOR	1	
Q702		2SD2216	TRANSISTOR	1	
QR303		MRN1104	TRANSISTOR-RESISTOR	1	
QR304,05		MRN1103	TRANSISTOR-RESISTOR	2	
QR306		MRN2111	TRANSISTOR-RESISTOR	1	
QR307		XP1212	TRANSISTOR-TRANSISTOR	1	
QR701		MRN1102	TRANSISTOR-RESISTOR	1	
QR702		MRN2102	TRANSISTOR-RESISTOR	1	
R201		ERJ2GEJ221	M.RESISTOR CH 2W 220	1	
R202		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R203,04		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R205		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R206,07		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R210,11		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R212		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R213		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R214		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R215		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R216		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R217		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R218		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R219		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R221		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R222		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R223-26		ERJ2GEJ330	M.RESISTOR CH 2W 33	4	
R227,28		ERJ2GEJ150	M.RESISTOR CH 2W 15	2	
R229,30		ERJ2GEJ330	M.RESISTOR CH 2W 33	2	
R231,32		ERJ2GEJ150	M.RESISTOR CH 2W 15	2	
R233,34		ERJ2GEJ330	M.RESISTOR CH 2W 33	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R235		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R236		ERJ2GEJ121	M.RESISTOR CH 2W 120	1	
R238		ERJ2GEJ221	M.RESISTOR CH 2W 220	1	
R239		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R240		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R241		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R242		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R243		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R244		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R245		ERJ2GEJ470	M.RESISTOR CH 2W 47	1	
R246		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R247		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R248		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R249		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R250		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R251		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R252		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R253		ERJ2GEJ123	M.RESISTOR CH 2W 12K	1	
R255		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R256		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R257		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R258,59		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	2	
R260,61		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R262		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R263		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R264		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R266		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R267		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R268,69		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R270		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R271		ERJ2GEJ471	M.RESISTOR CH 2W 470	1	
R272		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R273		ERJ2GEJ271	M.RESISTOR CH 2W 270	1	
R274,75		ERJ2GEJ221	M.RESISTOR CH 2W 220	2	
R276		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R277		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R280		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R281		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R282		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R301		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R302-10		ERJ2GEJ102	M.RESISTOR CH 2W 1K	9	
R311		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R312		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R313		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R314		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R315-30		ERJ2GEJ102	M.RESISTOR CH 2W 1K	16	
R332-34		ERJ2GEJ473	M.RESISTOR CH 2W 47K	3	
R335		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R336		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R337		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R338		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R340		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R341		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R342		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R343		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R344		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R345-47		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R349		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R350-65		ERJ2GEJ102	M.RESISTOR CH 2W 1K	16	
R366		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R367-98		ERJ2GEJ102	M.RESISTOR CH 2W 1K	32	
R399		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R400		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R401		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R402		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R403-05		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	3	
R406		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R407		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R408		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R409,10		ERJ2GEJ105	M.RESISTOR CH 2W 1M	2	
R411		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R412,13		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	2	
R414		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R415		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R416-29		ERJ2GEJ473	M.RESISTOR CH 2W 47K	14	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R430		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R431		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R432		ERJ2GEJ471	M.RESISTOR CH 2W 470	1	
R434		ERJ2GEJ471	M.RESISTOR CH 2W 470	1	
R435		ERJ2GEJ122	M.RESISTOR CH 2W 1.2K	1	
R436		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R437		ERJ2GEJ123	M.RESISTOR CH 2W 12K	1	
R438		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R439		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R441		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R443		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R444		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R445		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R446		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R447		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R448		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R449		ERJ2GEJ122	M.RESISTOR CH 2W 1.2K	1	
R450		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R451		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R452		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R453,54		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R455		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R456		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R459		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R461		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R464		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R465		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R466		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R467		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R468		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R469		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R470		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R471		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R472		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R473-86		ERJ2GEJ102	M.RESISTOR CH 2W 1K	14	
R701,02		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	2	
R703,04		ERJ2GEJ333	M.RESISTOR CH 2W 33K	2	
R705,06		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	2	
R707		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R708,09		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R710		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R711,12		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R713		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R714		ERJ2GEJ273	M.RESISTOR CH 2W 27K	1	
R715		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R716		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R717		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R718		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R719		ERJ3GEYG202	M.RESISTOR CH 1/16W 2K	1	
R720,21		ERJ2GEJ123	M.RESISTOR CH 2W 12K	2	
R722		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R723		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R724		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R725		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R726		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R727		ERJ2GEJ824	M.RESISTOR CH 2W 820K	1	
R728		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R729		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R730		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R732,33		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R734		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R735		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R736		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R737		ERJ2GEJ221	M.RESISTOR CH 2W 220	1	
X201		VSX0675	CRYSTAL OSCILLATOR	1	
X301		VSX0669	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMZ2376	BARRIER	1	
		VMZ2510	BARRIER	1	
		VSC4190	SHIELD COVER	1	
		VSC4396	SHIELD COVER (TOP)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP22123D	CCD FLEX. CARD C.B.A.		(RTL)
B291		VJS3500C012	CONNECTOR (FEMALE) 12P	1	
C292		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C293,C294		ECUM1E473ZFN	C.CAPACITOR 25V 0.047U	2	
C295		ECUM1E104ZFN	C.CAPACITOR 25V 0.1U	1	
D291		MA153	DIODE	1	
Q291		2SC2295	TRANSISTOR	1	
R291		ERJ6GEYG560	M.RESISTOR CH 1/16W 56	1	
R292		ERJ6GEYF472	M.RESISTOR CH 1/16W 4.7K	1	
W291		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
			MISCELLANEOUS		
		VJB22123	FLEX. CARD	1	
	■	VEK7506	LENS FLEX. C.B.A.		(RTL)
			MISCELLANEOUS		
		ON1004-R	PHOTO SENSOR	1	
	■	VEP23271A	AWT SENSOR C.B.A.		(RTL)
C501		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C502		ECST0JY475Z	T.CAPACITOR CH 6.3V 4.7U	1	
C503		ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C6801,02		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C6803		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C6804		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6805		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
D502		CL150UR	DIODE	1	
D6801		1SS355	DIODE	1	
D6802		MA141WK	DIODE	1	
D6803		MA141WA	DIODE	1	
IC501		M52944FP	IC	1	
IC6801		UPD7564G557	IC	1	
IC6803		GP1U102X	IC	1	
L501		ELJPC6R8KB	COIL 6.8UH	1	
P501		VJP3007E004	CONNECTOR (MALE) 4P	1	
Q6801		2SD1819	TRANSISTOR	1	
R502		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R6801,02		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	2	
R6803		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6804		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6805,06		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6807		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
X6801		VSX0678	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEE9302	WIRE CABLE	1	
	■	VEP28086C	E.V.F. C.B.A.		(RTL)
C801		ECQB1C104JB	P.CAPACITOR 16V 0.1U	1	
C802-04		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	3	
C805		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C806		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C807		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C808		ECEV0JG101ZP	E.CAPACITOR 6.3V 100U	1	
C809		ECEV1CA470F	E.CAPACITOR CH 16V 47U	1	
C810		ECUM2A432JUM	C.CAPACITOR 100V 4300P	1	
C811		ECST1AD476Z	T.CAPACITOR CH 10V 47U	1	
C812		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C813		ECUM2J221KBM	C.CAPACITOR 630V 220P	1	
C814		ECEV1HAN010R	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR CH 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C817		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C861		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C862		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C863		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
D803		SFPL-52	DIODE	1	
IC801		AN2516S	IC	1	
L801		ELJPA100KB	COIL 10UH	1	
L802		ELH5L222	COIL	1	
L804		VLQ0163J680	COIL 68UH	1	
L805		ELJPA100KB	COIL 10UH	1	
L806		ELJPA470KB	COIL 47UH	1	
P801		VJP3499D004	CONNECTOR (MALE) 4P	1	
P802		VJP3172B005	CONNECTOR (MALE) 5P	1	
P803		VJP3125B003	CONNECTOR (MALE) 3P	1	
P804		VJP1229T	CONNECTOR (MALE) 2P	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803,04		2SA1748	TRANSISTOR	2	
Q805,06		2SD2216	TRANSISTOR	2	
QR881		UN5212	TRANSISTOR-RESISTOR	1	
QR882		UN2130X	TRANSISTOR-RESISTOR	1	
R801		ERJ6ENF4422	M.RESISTOR CH 1/10W 2.2K	1	
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R808		VRE0071E242	M.RESISTOR CH 1/10W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		VRE0071E104	M.RESISTOR 100K	1	
R815		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R816,17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R818		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R819,20		ERJ6GEYJ275	M.RESISTOR CH 1/10W 2.7M	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R821		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ8R2	M.RESISTOR CH 1/16W 8.2	1	
R829		ERJ6ENF4222	M.RESISTOR CH 1/10W 2.2K	1	
R833		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R834		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R835		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R840		ERJ8GEYJ685	M.RESISTOR CH 1/8W 6.8M	1	
R841,42		ERJ6GEYJ475	M.RESISTOR CH 1/10W 4.7M	2	
R843		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R844		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R845		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R850		VRE0071E822	M.RESISTOR CH 1/10W 8.2K	1	
R851		VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R852		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R853		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R855		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R856		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R861		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R862		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R863		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R864		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R883		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
T801		ETF08L27A	TRANSFORMER	1	<!>
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR803		EVM7TSX00BV6	V.RESISTOR	1	
VR804		EVM7BSX30B26	V.RESISTOR	1	
	■	VEK7455	MIC UNIT C.B.A.		
C4801-03		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C4804		ECUM1C823KBN	C.CAPACITOR CH 16V 0.082U	1	
C4805		ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C4806		ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	1	
C4807		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C4808		ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C4809,10		ECUM1C823KBN	C.CAPACITOR CH 16V 0.082U	2	
C4811		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4812,13		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C4820,21		ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	2	
C4822		ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C4823		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4824		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4825		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4826		ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C4827		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4828		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4829		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4830		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4832		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4833		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
IC4801		BA14741F	IC	1	
JK4801		VJJ0414	JACK	1	
P4801		VJP3172B004	CONNECTOR (MALE) 4P	1	
Q4805		2SD1819A	TRANSISTOR	1	
Q4806		2SB1218A	TRANSISTOR	1	
Q4807		2SD1819A	TRANSISTOR	1	
Q4808		2SB1218A	TRANSISTOR	1	
Q4809		2SD1819	TRANSISTOR	1	
Q4810		2SD1819A	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4801-03		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R4804		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4805		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R4806		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4807		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R4808,09		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R4810		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4811		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R4812		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4813		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4814-17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	4	
R4826		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4827		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R4828		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4829		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R4834		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4835		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R4836		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4837		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4838		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4839		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4840		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R4841		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4842		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R4843		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4844		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4845		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4846		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4847		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R4848		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
			MISCELLANEOUS		
		VSC3921	MIC SHIELD CASE (A)	1	
		VSC3922	MIC SHIELD CASE	1	
		VMP4341	FRONT FIXING ANGLE	1	
		XQN2+C2	SCREW	1	
	■	VEP03B80B	VTR MAIN C.B.A.		(RTL)
B6004		VJP3358C016	CONNECTOR (MALE) 16P	1	
C2001		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C2002		ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C2003		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C2004		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2005		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C2007		ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C2009		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C2010		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2011		ECCF1H101JC	C.CAPACITOR 50V 100P	1	
C2012,13		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C2014		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C2015-17		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	3	
C2018		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C2020-22		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C2023		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C2025-27		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2028		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C2029		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2040-42		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	3	
C2043		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2070		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3002		ECEV0GA470	E.CAPACITOR CH 4V 47U	1	
C3003,04		ECEV0GA471	E.CAPACITOR CH 4V 470U	2	
C3005		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3006		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3007		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3008		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3011,12		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3013		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3014		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3015		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3016		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3017		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3018		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3019		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C3020		ECUX1H070CCV	C.CAPACITOR CH 50V 7P	1	
C3021		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3022		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3029		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3030		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3031		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3032		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3033		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3036		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3037		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3039		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C3041		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3042		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3043		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3044		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3045		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3047		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3048		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3049		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3050		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C3052		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3054		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3055		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3060		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C3061		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3062		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3063		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3065		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3070		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C3071		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3072		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3075		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3083		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3085		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C3087		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3208		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3209		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3210		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3211		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3214		ECUM1E393KBN	C.CAPACITOR CH 25V 0.039U	1	
C3215		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3501		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C3502,03		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C3504		ECST1AY475Z	T.CAPACITOR CH 16V 4.7U	1	
C3505		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3507		ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C3508		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C3509		ECST1AY475Z	T.CAPACITOR CH 16V 4.7U	1	
C3510		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C3511		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3513		ECST1AY475Z	T.CAPACITOR CH 16V 4.7U	1	
C3515		ECUM1H103JCM	C.CAPACITOR CH 50V 0.01U	1	
C3516		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3517		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3518		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3519		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3520		ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	1	
C3521		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3522		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3523		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3524,25		ECST0JY106Z	E.CAPACITOR 6.3V 10U	2	
C3526		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3527		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3528		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3529		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3530-33		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C3534		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3535		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3536,37		ECST0JY106Z	E.CAPACITOR 6.3V 10U	2	
C3538		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3539		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3540		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3541		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3542		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3543		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3544		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3545		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3546		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C3547		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3548		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3550		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3551		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C3552		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3553		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3556		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3561		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C3562		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3563		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3590		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3591		ECUM1H103JCM	C.CAPACITOR CH 50V 0.01U	1	
C3592		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C4001		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4002		ECST1EY474Z	T.CAPACITOR CH 25V 0.47U	1	
C4004		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C4005		ECST0JY475Z	T.CAPACITOR CH 6.3V 4.7U	1	
C4006		ECST1EY474Z	T.CAPACITOR CH 25V 0.47U	1	
C4007		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C4008		ECUM1C474KBM	C.CAPACITOR CH 16V 0.47U	1	
C4010,11		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	2	
C4012		ECUM1C334KBN	C.CAPACITOR CH 16V 0.33U	1	
C4013		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C4014		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C4015		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C4016		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4017		ECUM2A472JCM	C.CAPACITOR 100V 4700P	1	
C4018		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4020		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C4021		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4023		ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C4502,03		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	2	
C4504,05		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C4506,07		ECEV0GA330	E.CAPACITOR CH 4V 33U	2	
C4508,09		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	2	
C4510,11		ECST0JY106Z	E.CAPACITOR 6.3V 10U	2	
C4512,13		ECEV05A470	E.CAPACITOR CH 4V 47U	2	
C4514-19		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	6	
C4522		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C4524,25		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	2	
C4526		ECEV0GA101	E.CAPACITOR CH 4V 100U	1	
C4527		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C4528		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C4529,30		ECEV1CA100	E.CAPACITOR CH 16V 10U	2	
C4531		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4532,33		ECST1AY335Z	T.CAPACITOR CH 10V 3.3U	2	
C4534		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4535		ECST0JY475Z	T.CAPACITOR CH 6.3V 4.7U	1	
C4539-41		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	3	
C4542,43		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C4544		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C4545,46		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	2	
C4548		ECST1CY335Z	T.CAPACITOR CH 16V 3.3U	1	
C4550,51		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	2	
C4552,53		ECST1AY475Z	T.CAPACITOR CH 16V 4.7U	2	
C5001		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5002		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5003		ECUM1C683KBN	C.CAPACITOR CH 16V 0.068U	1	
C5004		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5005		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5006		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5007		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5008		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5009		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5010		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5011		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5012,13		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	2	
C5014		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5015-17		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	3	
C5018		ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C5020		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5021-24		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	4	
C5025		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5026-29		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	4	
C5030-33		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	4	
C5034		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5036		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5037-40		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	4	
C5041,42		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	2	
C5043		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5501		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5502		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5503		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5504		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5505		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C5506		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C5507		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C5508		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5509		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5510,11		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5512		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C5513		ECUX1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C5514-16		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5517		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5518		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5519		ECST1AX226Z	T.CAPACITOR 10V 22U	1	
C5520		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C5522-24		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5525		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C5526		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C5527		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5528		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5529		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C5530		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5531		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C5532		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C5533		ECST1AY475Z	T.CAPACITOR CH 16V 4.7U	1	
C5534		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5535,36		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5537,38		ECST1CY225Z	T.CAPACITOR CH 16V 2.2U	2	
C5539		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C5540		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C5541		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C5542		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5543		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5544		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C5547		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5548		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5549		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5551		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5552		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5553		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5554		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5555		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C5556-58		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5559		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5560		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5561		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5562,63		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5564		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5565,66		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5567		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6001-04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C6005		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6006,07		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	2	
C6008		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6009		ECUX1H010CCV	C.CAPACITOR CH 50V 1P	1	
C6011		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6013-16		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6017		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6018		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C6019		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6022,23		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C6024,25		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6026		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6027		ECEV0GA101	E.CAPACITOR CH 4V 100U	1	
C6028		ECUX1H030CCV	C.CAPACITOR CH 50V 3P	1	
C6029		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6030		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6031		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6032		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6033		ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C6034		ECUX1H030CCV	C.CAPACITOR CH 50V 3P	1	
C6035		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6037		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6039		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6040		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6041		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6045		ECUX1H020CCV	C.CAPACITOR CH 50V 2P	1	
C6050		ECST0JX476Z	T.CAPACITOR 6.3V 47U	1	
C6051		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C6201		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6203		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C6204,05		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	2	
C6206		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6207,08		ECEV1CA100	E.CAPACITOR CH 16V 10U	2	
C6209		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6210		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6211		ECUX1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C6213		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C6214		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C6221		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6230		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C6231		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6301		ECST0JY106Z	E.CAPACITOR 6.3V 10U	1	
C6305		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C6309		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6311		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6312		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C6315		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6318		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6320		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6321		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6322		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C6324		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	1	
C6325		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6326		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C6330		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C6331		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C6334		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6335		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6336		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6338		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6401		ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C6402		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6403		ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
D3001,02		MA729	DIODE	2	
D3003		1SS355	DIODE	1	
D3004		MA729	DIODE	1	
D3501		MA133	DIODE	1	
D3502		1SS355	DIODE	1	
D3503		MA133	DIODE	1	
D3504		1SS355	DIODE	1	
D3590		1SS355	DIODE	1	
D4501		MA133	DIODE	1	
D4505		MA8039-L	DIODE	1	
D5001		MA729	DIODE	1	
D5501		1SS355	DIODE	1	
D5502		MA132K	DIODE	1	
D5503		MA728	DIODE	1	
D6001		MA728	DIODE	1	
D6005		1SS355	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6010		MA728	DIODE	1	
D6011		MA132WK	DIODE	1	
D6012,13		MA132WA	DIODE	2	
D6014		MA132WK	DIODE	1	
D6015		MA728	DIODE	1	
D6016		MA133	DIODE	1	
D6017		MA132K	DIODE	1	
D6018		MA728	DIODE	1	
D6201		1SS355	DIODE	1	
D6301		MA132K	DIODE	1	
D6303		MA132WA	DIODE	1	
D6304,05		MA132K	DIODE	2	
FL3001		VLF1094	FILTER	1	
FL3501		VLF1030	FILTER	1	
FL5501		VLF0973	FILTER	1	
FP2001		VJS2848D007	CONNECTOR (FEMALE) 7P	1	
FP2002		VJS2959B018	CONNECTOR (FEMALE) 18P	1	
FP3001		VJS3452C012	CONNECTOR (FEMALE) 12P	1	
FP3003		VJS3452C028	CONNECTOR (FEMALE) 28P	1	
FP4001		VJS2960A009	CONNECTOR (FEMALE) 9P	1	
FP5001		VJS2959B023	CONNECTOR (FEMALE) 23P	1	
FP6001		VJS2959B018	CONNECTOR (FEMALE) 18P	1	
FP6002		VJS2959B006	CONNECTOR (FEMALE) 6P	1	
FP6003		VJS3452C026	CONNECTOR (FEMALE) 26P	1	
IC2001		TB6518F	IC	1	
IC2002,03		MDC05TR	IC	2	
IC3001		VEFH25D	HIC	1	
IC3003		AN3298NSB	IC	1	
IC3005		BA7071F	IC	1	
IC3501		TA8868AF	IC	1	
IC3502		MN3802AS	IC	1	
IC3503		MN3851MS	IC	1	
IC3504		BU4066BCFV	IC	1	
IC3505		TA75W01FU	IC	1	
IC3590		TA75W393FU	IC	1	
IC4501		AN3957FHP	IC	1	
IC4502		BA3308F	IC	1	
IC5001		AN3353FHP	IC	1	
IC5501		AN2467NFHP	IC	1	
IC5502		TL8850F	IC	1	
IC6001		MN6755486M5T	IC	1	
IC6002		S3510ANFJ	IC	1	
IC6003		UPD6462GS613	IC	1	
IC6004		BU4066BCFV	IC	1	
IC6005		BA6289F	IC	1	
IC6006		TA75W393FU	IC	1	
IC6007		XC62CP3802PR	IC	1	
IC6008		PST9133NR	IC	1	
IC6009		BU4094BCFV	IC	1	
IC6010		BU4066BCFV	IC	1	
IC6301		MN1870824M5Y	IC	1	
IC6302		TC7W04F	IC	1	
IC6303		BA7653F	IC	1	
IC6304		TC7WU04F	IC	1	
IC6305		LM393DB	IC	1	
IC6306		S8420KF	IC	1	
IC6307		TC7W04F	IC	1	
IC6401		TA75W393FU	IC	1	
IC6402		UPD4538BG	IC	1	
IC6403		SC7S04F	IC	1	
IC6404		SC7S08F	IC	1	
L3001		ELJPA101KB	COIL 100UH	1	
L3002		ELJPA150KB	COIL 15UH	1	
L3003		VLQ0426J560	COIL 56UH	1	
L3004		ELJPA150KB	COIL 15UH	1	
L3005		ELJFA121JB	COIL	1	
L3006		VLQ0426J3R9	COIL 3.9UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L3007		ELJFC150JB	COIL 15UH	1	
L3010		VLQ0426J470	COIL 47UH	1	
L3011		ELJFC150JB	COIL 15UH	1	
L3012		ELJFC100JB	COIL 10UH	1	
L3015		VLQ0426J680	COIL 68UH	1	
L3017		VLQ0426J680	COIL 68UH	1	
L3018		ELJPA680KB	COIL 68UH	1	
L3019		ELJPA221KB	COIL 220UH	1	
L3021		VLQ0426J330	COIL 33UH	1	
L3026		ELJPA101KB	COIL 100UH	1	
L3030		VLQ0426J330	COIL 33UH	1	
L3501,02		ELJPA100KB	COIL 10UH	2	
L3503		ELJFA151JB	COIL	1	
L3504		VLQ0426J470	COIL 47UH	1	
L3505		ELJPA100KB	COIL 10UH	1	
L3506,07		ELJPA150KB	COIL 15UH	2	
L3508,09		VLQ0426J680	COIL 68UH	2	
L3510		VLQ0426J470	COIL 47UH	1	
L3511		VLQ0426J5R6	COIL 5.6UH	1	
L4001		ELJPA470KB	COIL 47UH	1	
L4003		ELJPA101KB	COIL 100UH	1	
L4501		ELJPA330KB	COIL 33UH	1	
L5001		ELJPA101KB	COIL 100UH	1	
L5002-04		ELJPA150KB	COIL 15UH	3	
L5005-07		ELJPA101KB	COIL 100UH	3	
L5501		ELJPA470KB	COIL 47UH	1	
L5502		ELJFA680JB	COIL 68UH	1	
L5503		ELJFB471KF	COIL	1	
L5504		VLQ0426J330	COIL 33UH	1	
L5505		VLQ0426J470	COIL 47UH	1	
L5506-08		ELJPA150KB	COIL 15UH	3	
L5509		VLQ0426J820	COIL 82UH	1	
L5511		ELJFC150JB	COIL 15UH	1	
L6001		ELJFA330JB	COIL	1	
L6002		ELJPA101KB	COIL 100UH	1	
L6302		ELJPA101KB	COIL 100UH	1	
P4001		VJP3172B004	CONNECTOR (MALE) 4P	1	
P6004		VJP3172B005	CONNECTOR (MALE) 5P	1	
P6006		VJP3125D010	CONNECTOR (MALE) 10P	1	
PJ6001		VJP3126B028	CONNECTOR (MALE) 28P	1	
PP3002		VJP2962A010	CONNECTOR (MALE) 10P	1	
Q3001		2SB970X	TRANSISTOR	1	
Q3002		2SD2216	TRANSISTOR	1	
Q3003		2SC4627	TRANSISTOR	1	
Q3004		2SD2216	TRANSISTOR	1	
Q3005		2SB1462	TRANSISTOR	1	
Q3006		2SD2216	TRANSISTOR	1	
Q3008-10		2SC4627	TRANSISTOR	3	
Q3012		2SD2216	TRANSISTOR	1	
Q3014		2SB1462	TRANSISTOR	1	
Q3020		2SB970X	TRANSISTOR	1	
Q3021		2SB1462	TRANSISTOR	1	
Q3026		2SD2216	TRANSISTOR	1	
Q3027		2SB1462	TRANSISTOR	1	
Q3221		2SD2216	TRANSISTOR	1	
Q3501		2SD2216	TRANSISTOR	1	
Q3502-04		2SB1462	TRANSISTOR	3	
Q3505		2SD2216	TRANSISTOR	1	
Q3507		2SD2216	TRANSISTOR	1	
Q3508,09		2SB1462	TRANSISTOR	2	
Q3510,11		2SD2216	TRANSISTOR	2	
Q3513		2SD2216	TRANSISTOR	1	
Q3514		2SB1462	TRANSISTOR	1	
Q3515		2SC3938	TRANSISTOR	1	
Q3516-18		2SD2216	TRANSISTOR	3	
Q3519		2SC4627	TRANSISTOR	1	
Q4001		XP4501	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4002		2SD602-R	TRANSISTOR	1	
Q4004		XP4501	TRANSISTOR-RESISTOR	1	
Q4005		2SB1219	TRANSISTOR	1	
Q4007		XP4501	TRANSISTOR-RESISTOR	1	
Q4501,02		2SD1979	TRANSISTOR	2	
Q4503		XP4501	TRANSISTOR-RESISTOR	1	
Q4505,06		XP4601	TRANSISTOR-RESISTOR	2	
Q4507,08		2SD1979	TRANSISTOR	2	
Q5001,02		XN4506	TRANSISTOR-TRANSISTOR	2	
Q5005		2SA812	TRANSISTOR	1	
Q5501		2SB1462	TRANSISTOR	1	
Q5502		2SC3938	TRANSISTOR	1	
Q5503		2SB1462	TRANSISTOR	1	
Q5504-07		2SD2216	TRANSISTOR	4	
Q5508		2SC4627	TRANSISTOR	1	
Q5509		2SD2216	TRANSISTOR	1	
Q5510		2SB1462	TRANSISTOR	1	
Q6002		2SD2216	TRANSISTOR	1	
Q6004		2SD2216	TRANSISTOR	1	
Q6005		XP4501	TRANSISTOR-RESISTOR	1	
Q6008,09		2SD2216	TRANSISTOR	2	
Q6201		2SB1462	TRANSISTOR	1	
Q6304		2SK198	TRANSISTOR	1	
Q6305		2SC4627	TRANSISTOR	1	
QR2002		MRN1111	TRANSISTOR-RESISTOR	1	
QR3001		MRN1102	TRANSISTOR-RESISTOR	1	
QR3002		MRN1104	TRANSISTOR-RESISTOR	1	
QR3004		MRN1102	TRANSISTOR-RESISTOR	1	
QR3009		MRN1103	TRANSISTOR-RESISTOR	1	
QR3013,14		MRN1103	TRANSISTOR-RESISTOR	2	
QR3022		MRN1103	TRANSISTOR-RESISTOR	1	
QR3023		MRN1102	TRANSISTOR-RESISTOR	1	
QR3501		MRN1103	TRANSISTOR-RESISTOR	1	
QR4002		UN9110	TRANSISTOR-RESISTOR	1	
QR4003		MRN2103	TRANSISTOR-RESISTOR	1	
QR4004		XP1215	TRANSISTOR-TRANSISTOR	1	
QR4006		MRN2102	TRANSISTOR-RESISTOR	1	
QR4007		MRN1104	TRANSISTOR-RESISTOR	1	
QR4009		MRN1104	TRANSISTOR-RESISTOR	1	
QR4501		MRN2111	TRANSISTOR-RESISTOR	1	
QR4502		MRN1103	TRANSISTOR-RESISTOR	1	
QR4503-06		MRN1104	TRANSISTOR-RESISTOR	4	
QR5001		MRN1104	TRANSISTOR-RESISTOR	1	
QR5003		MRN1103	TRANSISTOR-RESISTOR	1	
QR5501		MRN1103	TRANSISTOR-RESISTOR	1	
QR5502,03		MRN1104	TRANSISTOR-RESISTOR	2	
QR6001		UN2130X	TRANSISTOR-RESISTOR	1	
QR6002		MRN1103	TRANSISTOR-RESISTOR	1	
QR6003		MRN2103	TRANSISTOR-RESISTOR	1	
QR6004		XP4115	TRANSISTOR-RESISTOR	1	
QR6005		MRN1103	TRANSISTOR-RESISTOR	1	
QR6006		MRN2104	TRANSISTOR-RESISTOR	1	
QR6007,08		MRN1102	TRANSISTOR-RESISTOR	2	
QR6009		XP1211	TRANSISTOR-RESISTOR	1	
QR6010		XP1213	TRANSISTOR-RESISTOR	1	
QR6012		MRN1104	TRANSISTOR-RESISTOR	1	
QR6014		UN921D	TRANSISTOR-RESISTOR	1	
QR6015		MRN1111	TRANSISTOR-RESISTOR	1	
QR6016,17		MRN1103	TRANSISTOR-RESISTOR	2	
QR6018		UN921E	TRANSISTOR-RESISTOR	1	
QR6019		MRN1111	TRANSISTOR-RESISTOR	1	
QR6401		UN5211	TRANSISTOR-RESISTOR	1	
R2001		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2002		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R2003		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2004		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R2005		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R2006		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R2007		ERJ8GEYJR47	M.RESISTOR CH 1/8W 0.47	1	
R2008		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2009		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2010		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2012		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R2015		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2016		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2017		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2018		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R2019,20		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R2021		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2022		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2040-42		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	3	
R3001,02		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R3003,04		ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R3005		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R3006		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3009		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3010		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3011		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3012		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3013		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3014,15		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3016		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R3017		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R3018		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3019		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R3020		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3021		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3022		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3023		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3024		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3025		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3026		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3030		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R3031		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3033		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3034		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3038		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3040,41		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R3042		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3043		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3044		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3045		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3046		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3048		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R3049		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3051		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R3052		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R3053		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3055		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3056		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3058		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3059		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3060,61		VRE0071E680	M.RESISTOR CH 1/10W 68	2	
R3062		VRE0071E560	M.RESISTOR CH 1/10W 56	1	
R3063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3064		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3065		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R3070		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3071		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3072		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3073		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3074		VRE0082A102	M.RESISTOR CH 1/10W 1K	1	
R3075		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3076		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3077		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3078		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3080		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3081		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3084		ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1	
R3089		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3090		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3091		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3092		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3097		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R3098		ERJ3GEYJ106	M.RESISTOR CH 1/16W 10M	1	
R3107		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3113		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3114		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3115		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3116		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3131		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3225		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3237		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3244		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3245		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3246		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3247		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3270		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R3501		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3502		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R3503		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R3504		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R3505		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3506		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3508		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R3509		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R3510		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R3511		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3512		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R3513		ERJ2GEJ273	M.RESISTOR CH 2W 27K	1	
R3514		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3515		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3516		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3517		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3518		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R3519		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R3520		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3521		ERJ2GEJ274	M.RESISTOR CH 2W 270K	1	
R3522		ERJ2GEJ564	M.RESISTOR CH 2W 560K	1	
R3523		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R3524		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3525		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R3526		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R3527,28		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R3530		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R3531,32		ERJ2GEJ273	M.RESISTOR CH 2W 27K	2	
R3533		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R3534		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R3535		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3536		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R3537		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3538		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3539		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R3540		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R3541		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3542		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R3543		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3544		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R3545		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3546		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3547		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R3548		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3549		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R3550		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3551		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3552		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3560		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3561		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R3562		ERJ2GEJ221	M.RESISTOR CH 2W 220	1	
R3563		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R3564		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3565		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R3566		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3567,68		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R3569		ERJ2GEJ122	M.RESISTOR CH 2W 1.2K	1	
R3570		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R3571		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3572		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R3573		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R3574,75		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R3590		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3591		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R3592,93		VRE0082A104	M.RESISTOR CH 1/10W 100K	2	
R3594		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3595		VRE0071E224	M.RESISTOR CH 1/10W 220K	1	
R3596,97		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R3598		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R4001		ERJ2GEJ100	M.RESISTOR CH 2W 10	1	
R4002		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R4003		VRE0082A271	M.RESISTOR CH 1/10W 270	1	
R4004		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R4005		VRE0082A682	M.RESISTOR CH 1/10W 6.8K	1	
R4006		ERJ2GEJ823	M.RESISTOR CH 2W 82K	1	
R4007		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R4008		VRE0071E133	M.RESISTOR CH 1/10W 13K	1	
R4009		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R4012		ERJ2GEJ391	M.RESISTOR CH 2W 390	1	
R4015,16		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	2	
R4018		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R4019		ERJ2GEJ184	M.RESISTOR CH 2W 180K	1	
R4020		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R4021		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R4022		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R4023		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R4024		ERJ2GEJ680	M.RESISTOR CH 2W 68	1	
R4025		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R4026		ERJ2GEJ684	M.RESISTOR CH 2W 680K	1	
R4027		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R4028		ERJ2GEJ684	M.RESISTOR CH 2W 680K	1	
R4029,30		ERJ2GEJ334	M.RESISTOR CH 2W 330K	2	
R4501		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R4502,03		ERJ2GEJ511	M.RESISTOR CH 2W 510	2	
R4504,05		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	2	
R4510,11		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R4512,13		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2	
R4516		VRE0082A153	M.RESISTOR CH 1/10W 15K	1	
R4517		VRE0082A123	M.RESISTOR CH 1/10W 12K	1	
R4518		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R4519		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R4520		ERJ2GEJ394	M.RESISTOR CH 2W 390K	1	
R4521		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4524		ERJ2GEJ124	M.RESISTOR CH 2W 120K	1	
R4525		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R4526,27		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	2	
R4528,29		ERJ2GEJ561	M.RESISTOR CH 2W 560	2	
R4530,31		ERJ2GEJ124	M.RESISTOR CH 2W 120K	2	
R4536		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R4537		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R4538		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R4539		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R4540		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R4541		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R4542		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R4543,44		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	2	
R4545,46		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R4548		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R4550		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R4553,54		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R4557,58		ERJ2GEJ824	M.RESISTOR CH 2W 820K	2	
R4559,60		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	2	
R4561,62		ERJ2GEJ242	M.RESISTOR CH 2W 2.4K	2	
R4563,64		ERJ2GEJ820	M.RESISTOR CH 2W 82	2	
R4565,66		ERJ2GEJ154	M.RESISTOR CH 2W 150K	2	
R4567,68		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R4569		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R4570		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R4571		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R4575,76		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	2	
R4577,78		ERJ2GEJ681	M.RESISTOR CH 2W 680	2	
R4579,80		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R4581		ERJ2GEJ225	M.RESISTOR CH 2W 2.2M	1	
R4583		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R4584		ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	
R5001		VRE0071E113	M.RESISTOR CH 1/10W 11K	1	
R5002,03		ERJ3GEYJ270	M.RESISTOR CH 1/16W 27	2	
R5004,05		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5006		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5007		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R5008		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5009		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R5010		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5011		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5012		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5013		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5014		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R5016		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5501		ERJ2GEJ273	M.RESISTOR CH 2W 27K	1	
R5502		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R5503		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5504		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R5505		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R5506		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5508,09		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	2	
R5510		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5511		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R5512		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R5513		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5514		ERJ3GEYJ335	M.RESISTOR CH 1/16W 3.3M	1	
R5515		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5516		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R5518,19		ERJ2GEJ681	M.RESISTOR CH 2W 680	2	
R5520		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R5521		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R5522		ERJ2GEJ471	M.RESISTOR CH 2W 470	1	
R5523		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R5524		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R5525		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R5526		VRE0082A222	M.RESISTOR CH 1/10W 2.2K	1	
R5527		VRE0082A512	M.RESISTOR CH 1/10W 5.1K	1	
R5530		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R5531		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5532		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R5533		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5534		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5535,36		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	2	
R5537		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R5538		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5539		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R5540		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5541,42		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R5543		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5544		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5545-47		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R5548		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5549		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R5550,51		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R5552		ERJ2GEJ391	M.RESISTOR CH 2W 390	1	
R5553		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5554,55		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R5556,57		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R5563		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R5564		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R5565		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R5599		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6001		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6002		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R6003		ERJ2GEJ274	M.RESISTOR CH 2W 270K	1	
R6004		ERJ2GEJ273	M.RESISTOR CH 2W 27K	1	
R6006-08		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R6010		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6011		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6012		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6013		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6014		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6015		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6016		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6017		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6018		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6019		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R6020		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6021		ERJ8GEYJ120	M.RESISTOR CH 1/8W 12	1	
R6022		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6023		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R6024		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6025		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6026		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6027,28		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R6029		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6030		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6031		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6032,33		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R6034		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R6035		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6036		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6037		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6038		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6039		ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6041		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6042		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R6043		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R6044		VRE0071E223	M.RESISTOR 22K	1	
R6045		VRE0071E333	M.RESISTOR 33K	1	
R6046		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6047		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6048		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6049		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6051		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6052,53		ERJ2GEJ393	M.RESISTOR CH 2W 39K	2	
R6055		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6058		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6060		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6061		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6062,63		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R6064		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R6066		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6068		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6070		ERJ2GEJ101	M.RESISTOR CH 2W 100	1	
R6071,72		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	2	
R6073		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6074		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6075		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R6076		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R6077		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6078		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6079		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6080		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6081		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6082		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R6083		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6084		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6086		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6087		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R6088		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6091		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6092		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6101		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6104		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6105		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6111		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R6112		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R6113		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6120		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6121		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6130		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R6131		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6134		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6135		ERJ2GEJ121	M.RESISTOR CH 2W 120	1	
R6138		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6139		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6141		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6144		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6145		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6150		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R6151		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R6152		ERJ2GEJ124	M.RESISTOR CH 2W 120K	1	
R6153		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6154		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6155		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6168		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6169		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6182,83		ERJ2GEJ683	M.RESISTOR CH 2W 68K	2	
R6185		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6187		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6203		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6205		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R6206,07		ERJ2GEJ104	M.RESISTOR CH 2W 100K	2	
R6208		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6209		ERJ2GEJ181X	M.RESISTOR CH 2W 180	1	
R6210,11		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	2	
R6212		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6213		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6214		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6231		ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6232		ERJ2GEJ184	M.RESISTOR CH 2W 180K	1	
R6233-35		ERJ2GEJ223	M.RESISTOR CH 2W 22K	3	
R6302		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6305		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R6306		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6310		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R6311		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6312		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6314		VRE0071E103	M.RESISTOR CH 1/10W 10K	1	
R6315		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6316		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R6318		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R6319		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6323		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6324		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6325		VRE0071E473	M.RESISTOR CH 1/10W 47K	1	
R6326,27		VRE0071E104	M.RESISTOR 100K	2	
R6329		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6338,39		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R6340		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6341		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6342		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6344		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6346		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6348		VRE0034E474	M.RESISTOR	1	
R6401		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R6402		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6403		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R6404		ERJ3GEYJ335	M.RESISTOR CH 1/16W 3.3M	1	
R6405,06		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	2	
RA6001		EXBV8V102J	RESISTOR-RESISTOR	1	
RA6003-05		EXBV8V102J	RESISTOR-RESISTOR	3	
RA6006,07		EXBV8V104J	RESISTOR-RESISTOR	2	
RA6008		EXBV8V103J	V.RESISTOR	1	
RA6010		EXBV8V102J	RESISTOR-RESISTOR	1	
T4001		EIQ6QB008T	TRANSFORMER	1	
VR3004,05		EVM7JSX10B53	V.RESISTOR	2	
VR3006		EVM7JSX10B14	V.RESISTOR	1	
VR3007		EVM7JSX10B54	V.RESISTOR	1	
VR3008		EVM7JSX10B52	V.RESISTOR	1	
VR3501		EVM7JSX10B14	V.RESISTOR	1	
VR3503		EVM7JSX10B14	V.RESISTOR	1	
VR3504		EVM7JSX10B13	V.RESISTOR	1	
VR3505		EVM7JSX10B24	V.RESISTOR	1	
VR4501		EVM7JSX10B54	V.RESISTOR	1	
VR4509		EVM7JSX10B54	V.RESISTOR	1	
VR5502		EVM7JSX10B23	V.RESISTOR	1	
VR5503		EVM7JSX10B53	V.RESISTOR	1	
VR6301		EVM7JSX10B53	V.RESISTOR	1	
X5501		VSX0419	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
X6001		VSX0654	CRYSTAL OSCILLATOR	1	
X6002,03		VSX0601	CRYSTAL OSCILLATOR	2	
X6301		VSX0444	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMZ2377	BARRIER	1	
		VSC4202	SHIELD COVER (BOTTOM)	1	
		VSC4201	SHIELD COVER	1	
		VGQ1473	BARRIER	1	
	■	VEP06B44A	VTR SUB 1 C.B.A.		(RTL)
C6403		ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
IC6403		SC7S04F	IC	1	
IC6404		SC7S08F	IC	1	
QR6401		UN5211	TRANSISTOR-RESISTOR	1	
	■	VEP06B40A	VTR SUB 2 C.B.A.		(RTL)
C6401		ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C6402		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
IC6401		TA75W393FU	IC	1	
IC6402		UPD4538BG-T2	IC	1	
R6401		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R6402		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6403		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R6404		ERJ3GEYJ335	M.RESISTOR CH 1/16W 3.3M	1	
R6405,06		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	2	
	■	VEP01638B	POWER C.B.A.		(RTL)
C1001		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1002,03		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	2	
C1004		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1005		ECST1AY106Z	E.CAPACITOR 10V 10U	1	
C1006		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1008		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1009		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1010		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1011		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1012		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1013		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1014		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C1015		ECEV1CA470P	E.CAPACITOR CH 16V 47U	1	
C1017		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	1	
C1019		ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1022		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1024		ECUM1C155ZFN	C.CAPACITOR CH 16V 1.5U	1	
C1025		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1026		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1028		ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C1029		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1030		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1032		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1033-35		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C1036		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1037		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1042		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1043		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1046		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1051		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C1054		ECEV0GA470	E.CAPACITOR CH 4V 47U	1	
C1057		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1058		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1064		ECEV1CG100	E.CAPACITOR 16V 10U	1	
C1066		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1067		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1071		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1073		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1080,81		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C1101		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1103		ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
C1104		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1105		ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C1110		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1112		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1403		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1404		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1405		ECST1AY106Z	E.CAPACITOR 10V 10U	1	
C1406		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1407		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C1408		ECUM1A335KBP	C.CAPACITOR CH 10V 3.3U	1	
C1409		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1410		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1411		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1425		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1426		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1428		ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C1429		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1430		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1431		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1432		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1433,34		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C1471		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1473		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1480,81		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
D1002		EC20QS06	DIODE	1	
D1004		EC10QS04	DIODE	1	
D1005		SB05-05CP	DIODE	1	
D1006,07		MA142K	DIODE	2	
D1008		MA728	DIODE	1	
D1009		RD7.5M	DIODE	1	
D1015		EC15QS04	DIODE	1	
D1020		MA728	DIODE	1	
D1101-03		MA8130-M	DIODE	3	
D1402		EC20QS06	DIODE	1	
D1404		EC10QS04	DIODE	1	
D1415		EC15QS04	DIODE	1	
D1501		EC20QS03L	DIODE	1	
FP1001		VJS3320D016	CONNECTOR (FEMALE) 16P	1	
IC1001		BA9706K	IC	1	
IC1401		BA9706K	IC	1	
J1001		VEK6535	JACK	1	
J1501		VJJ0368	JACK	1	
L1001		ELL04T509R	COIL	1	
L1002		ELL04T045R	COIL	1	
L1003		ELL04T502R	TRANSFORMER	1	
L1007		ELL04T027R	TRANSFORMER	1	
L1008		ELL04T502R	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L1009		ELJPA100KB	COIL 10UH	1	
L1010,11		ELJPA101KB	COIL 100UH	2	
L1012		ELJPA100KB	COIL 10UH	1	
L1014		ELJPA100KB	COIL 10UH	1	
L1016		ELJPA470KB	COIL 47UH	1	
L1017		ELJPA100KB	COIL 10UH	1	
L1062		ELL04T009R	TRANSFORMER	1	
L1065		VLQ0319M4R7	COIL	1	
L1102,03		VLP0134	COIL	2	
L1110		ELC5SB3R9M	COIL	1	
L1402		ELL04T027R	TRANSFORMER	1	
L1403		ELL04T502R	TRANSFORMER	1	
L1404		ELJPA100KB	COIL 10UH	1	
L1406		ELJPA470KB	COIL 47UH	1	
L1407		ELL04T045R	COIL	1	
L1408		ELL04T502R	TRANSFORMER	1	
L1415		ELJPA150KB	COIL 15UH	1	
PS1001		VJS2961A028	CONNECTOR (FEMALE) 28P	1	
Q1001		2SA1731-R	TRANSISTOR	1	
Q1002,03		2SB798	TRANSISTOR	2	
Q1004		2SD2210	TRANSISTOR	1	
Q1005		2SB1073	TRANSISTOR	1	
Q1009		2SD1819	TRANSISTOR	1	
Q1062		MPL1	TRANSISTOR	1	
Q1401		2SA1731-R	TRANSISTOR	1	
Q1403		2SB798	TRANSISTOR	1	
QR1004		UN5214	TRANSISTOR-RESISTOR	1	
QR1005		UN5114	TRANSISTOR-RESISTOR	1	
QR1006		UN2130X	TRANSISTOR-RESISTOR	1	
QR1020		UN5113	TRANSISTOR-RESISTOR	1	
QR1061		UN5115	TRANSISTOR-RESISTOR	1	
R1001		VRE0067G822	M.RESISTOR 8.2K	1	
R1002		VRE0067G272	M.RESISTOR 2.7K	1	
R1003		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1004		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R1005		VRE0067G562	M.RESISTOR 5.6K	1	
R1006		VRE0067G272	M.RESISTOR 2.7K	1	
R1007		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1008		VRE0067G103	M.RESISTOR 10K	1	
R1009		VRE0067G152	M.RESISTOR 1.5K	1	
R1012		VRE0067G20C	M.RESISTOR CH 1/10W	1	
R1013		VRE0067G393	M.RESISTOR 39K	1	
R1014,15		VRE0067G182	M.RESISTOR 1.8K	2	
R1016		VRE0034E15	M.RESISTOR	1	
R1017		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1022		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R1023		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1026		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1027		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1033		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1038		VRE0071E560	M.RESISTOR CH 1/10W 56	1	
R1039		VRE0071E361	M.RESISTOR CH 1/10W 360	1	
R1040		VRE0071E151	M.RESISTOR CH 1/10W 150	1	
R1051		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R1052		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R1057		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1060		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R1061		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R1062		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1065		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1071		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1072		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1073		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1077		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1083		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1085		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1086		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1115		VSF0092	F.RESISTOR	1	
R1207		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R1301		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1401		VRE0067G822	M.RESISTOR 8.2K	1	
R1402		VRE0067G272	M.RESISTOR 2.7K	1	
R1405		VRE0067G562	M.RESISTOR 5.6K	1	
R1406		VRE0067G272	M.RESISTOR 2.7K	1	
R1414,15		VRE0067G182	M.RESISTOR 1.8K	2	
R1417		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1418		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1419		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1420		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1421		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1422		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R1430		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1438		VRE0071E111	M.RESISTOR CH 1/10W 110	1	
R1439		VRE0071E361	M.RESISTOR CH 1/10W 360	1	
R1471		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1472		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1473		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1485,86		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
SW1301		ESE122	SWITCH	1	
T1001		ELL04T050R	TRANSFORMER	1	
T1002		VTP0357	TRANSFORMER	1	
T1402		VTP0357	TRANSFORMER	1	
Z1001		VL2330/1HF	LITHIUM BATTERY	1	
			MISCELLANEOUS		
		VSC4192	SHIELD COVER	1	
		VSC4193	SHIELD COVER	1	
	■	VEK7463	AV JACK C.B.A.		(RTL)
C3601		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C3602		ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	1	
C3603,04		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	2	
C3605,06		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3607-10		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	4	
D3602		MA143	DIODE	1	
L3603		VLQ0584	COIL	1	
L3604		VLP0171	INDUCTOR	1	
L3608		VLQ0584	COIL	1	
PS3601		VJS2961A010	CONNECTOR (FEMALE) 10P	1	
R3601,02		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R3603,04		ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	2	
			MISCELLANEOUS		
		VSC3689	EARTH PLATE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00W14A	EJECT C.B.A.		(RTL)
S6703		VSP0584	SWITCH	1	
	■	VEP00V80A	S/S C.B.A.		(RTL)
S6702		ESE103119	SWITCH	1	
	■	VEK7464	S-JACK C.B.A.		(RTL)
C3650		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
D3650		MA143	DIODE	1	
D3651,52		MA8039-L	DIODE	2	